



CHEMICAL CO.

EPA Region 5 Records Ctr.



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September 11, 1987

A.C.F. Corp.  
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Attention: Mr. Dennis Thornson

On November 7, 1986, the U.S. Environmental Protection Agency promulgated the final rules for landfill disposal of hazardous materials. These rules were published in the Federal Register, Volume 51, Number 216 on that date and copies of a portion of that publication are attached.

The following information related to how, we believe, these regulations affect waste solvents. These items are discussed in Section V, Treatment Standards for Solvents. The solvents regulated are ones with EPA hazardous waste numbers F001, F002, F003, F004 and F005. These solvents are halogenated and non-halogenated solvents and the still bottoms from the recovery of these solvents. Following is the listing from nonspecific sources:

ethyl ether	tetrachloroethylene
methyl isobutyl ketone	trichloroethylene
n-butyl alcohol	methylene chloride
cyclohexanone	1,1,1-2 trichloroethane
methanol	carbon tetrachloride
cresols (cresylic acid)	chlorobenzene
toluene	ortho-dichlorobenzene
isobutanol	trichlorofluoromethane
carbon disulfide	xylene
nitrobenzene	acetone
pyridine	ethyl acetate
methyl ethyl ketone	ethyl benzene
1,1,2-trichloro-1,2,2-trifluoroethane	

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The treatment standards for the F001 through F005 spent solvents as listed under Demonstrated Technologies are:

- 1) Batch Distillation
- 2) Thin Film Evaporation
- 3) Fractionation
- 4) Incineration
- 5) Steam Stripping
- 6) Biological Treatment
- 7) Carbon Absorption
- 8) Air Stripping
- 9) Wet Air Oxidation

The land disposal restrictions are found in 40CFR268. These sections are described as follows: 268.3 Dilution is prohibited as a substitution for treatment; 268.7 Waste Analysis, the generator must make tests of his waste or have knowledge of the waste to determine if it is restricted from land disposal. If the material is restricted, the generator must notify the treatment facility, in writing, of the appropriate treatment standard. The notice to the facility must include the following information:

- 1) U.S. EPA hazard waste number.
- 2) The corresponding treatment standard.
- 3) The manifest number associated with the shipment of the waste.
- 4) Waste analysis data where available.

If the generator determines the material is suitable for land disposal, he must supply similar information along with a signed certification which is outlined in 40CFR268.7(a)(2).

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The attached form, we believe, meets the requirements outlined by U.S. EPA in 40CFR268.7(a)(1) for restricted wastes which are being set off-site for treatment. This form should accompany all future manifests to Hydrite, with a copy retained for your files.

If you have further questions in regard to restricted wastes or the certification, please contact your sales representative.

Sincerely,

HYDRITE CHEMICAL CO.

Attachments

Restricted Waste Notification

For Off-Site Treatment

40 CFR 264.73(b)(11) & 268.7(a)(1)

From Generator \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To

The Waste listed on Manifest # \_\_\_\_\_

contains Restricted Wastes U.S. EPA ID# \_\_\_\_\_

\_\_\_F001 \_\_\_F002 \_\_\_F003 \_\_\_F004 \_\_\_F005

which include the following solvents

___ethyl ether	___tetrachloroethylene
___methyl isobutyl ketone	___trichloroethylene
___n-butyl alcohol	___methylene chloride
___cyclohexanone	___1,1,1-trichloroethane
___methanol	___carbon tetrachloride
___cresols (cresylic acid)	___chlorobenzene
___toluene	___1,1,2-trichloro-1,2,2-trifluoroethane
___isobutanol	___ortho-dichlorobenzene
___carbon disulfide	___trichlorofluoromethane
___nitrobenzene	___xylene
___pyridine	___acetone
___methyl ethyl ketone	___ethyl acetate
	___ethyl benzene

This waste is suitable for treatment technologies as listed in 40CFR260 et al., which are:

Batch Distillation, Thin Film Evaporation, Fractionation, Incineration, Steam Stripping, Biological Treatment, Carbon Absorption, Air Stripping, Wet Air Oxidation.

I certify that, to the best of my knowledge, the above information is true, accurate, and complete.

Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_



Sequence 3 in the generator's decision-making process commences with one of the following determinations: (1) The concentration of hazardous constituents in the waste extract exceeds the applicable § 268.41 treatment standard; (2) the waste must be treated in accordance with the treatment method required under § 268.42; or (3) the concentration of hazardous constituents in the waste exceeds the applicable § 268.43 treatment standard. In each case, continued placement of the restricted waste in land disposal units as of the applicable effective date specified in Part 268 Subpart C is prohibited.

Generators may store restricted wastes on site in containers and tanks according to the provisions in section 268.50 prior to treatment. This storage is solely for the purpose of the accumulation of such quantities of hazardous waste as is necessary to facilitate proper, recovery, treatment, or disposal.

The generator must treat the restricted waste in either an on-site or off-site treatment facility with interim status or a RCRA permit that is allowed to accept the restricted waste (as specified in 40 CFR Part 270).

An off-site treatment facility must obtain a notice from the generator specifying the EPA Hazardous Waste Number, the applicable treatment standard, and the manifest number associated with the shipment of waste § 268.7(a)(1)). This notice must be placed in the operating record of the treatment facility along with a copy of the manifest. Generators who are also treatment, storage, or disposal facilities must place the same information in the operating record of the facility, although a formal notice and manifest are not required. The testing and recordkeeping requirements promulgated in today's

rule do not relieve the generator of his responsibilities under 40 CFR 262.20 to designate a facility on the manifest which is permitted to accept the waste for off-site management.

The determination that the treatment residue meets the applicable § 268.41 treatment standard can be made through knowledge of the hazardous constituents in the waste extract based on the processes used in the treatment of the waste or by analyzing the treatment residuals according to the waste analysis plan using the Toxicity Characteristic Leaching Procedure (Part 268, Appendix I). The determination that the treatment residue meets the applicable § 268.43 performance standard can be made through knowledge of the hazardous constituents in the waste based on the processes used in the treatment of the waste or by analyzing the treatment residuals according to the waste analysis plan. In either case, if the concentration of hazardous constituents in the treatment residual extract exceeds § 268.41 treatment performance standards, or the concentration of hazardous constituents in the residual exceeds § 268.43 treatment standards, additional treatment must be performed before land disposal is permitted. Generators, transporters, handlers, storage facilities, or treatment facilities may not dilute restricted wastes as a substitute for adequate treatment to meet §§ 268.41 or 268.43 treatment standards. Such actions will be considered a violation of the dilution prohibition. In particular, wastes meeting Part 268 Subpart D treatment standards must not be mixed with wastes that do not meet such standards in order to achieve the treatment standard for the mixture (§ 268.3). EPA does not intend to disrupt or alter the normal and customary practices of

properly operated treatment facilities. Treatment facilities can mix compatible wastes in order to treat at capacity levels. However, the concentration of a hazardous constituent in the treatment residual must not exceed the concentration of the most stringent applicable §§ 268.41 or 268.43 treatment standard for any given constituent.

When shipping the treatment residue to an interim status or RCRA permitted land disposal facility, the treatment facility must certify (as specified in § 268.7(b)(2)) that the treatment residue meets the applicable treatment standards in §§ 268.41, or 268.43, or has been treated using the required method in § 268.42 and, therefore, is no longer a restricted waste. The treater must also send a notice to the land disposal facility and include the EPA Hazardous Waste Number, the applicable treatment standard, the manifest number associated with the shipment of waste, and waste analysis data from treatment residues where available as specified in § 268.7(b)(1).

If the treatment residuals meet the delisting criteria, the generator or treatment facility may petition the Agency for a site-specific delisting pursuant to the provisions in 40 CFR 260.22. Delisted residuals can be managed in subtitle D facilities.

In some cases, the generator or treatment facility may conclude that it is technically infeasible to meet the §§ 268.41 or 268.43 treatment performance standards established for the waste. If a waste cannot meet the applicable treatment standards, the generator may petition EPA for a treatability variance under § 268.44 (See Sequence 7: Variance From a Treatment Standard, for a detailed discussion.

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restricted wastes to be treated in BDAT treatments. EPA also believes it likely that alternative capacity will be rationed through the medium of price, and that producers of non-restricted wastes may find the new price prohibitive. This effect of establishing treatment priorities is expected to prevent the use of limited incineration capacity on non-restricted wastes which do not present the environmental dangers associated with restricted wastes.

Finally, some commenters objected that EPA did not consider economic achievability in setting treatment standards. Economic achievability is not a consideration for rulemaking under RCRA.

#### *D. Paperwork Reduction Act*

The Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq., requires that the information collection requirements of proposed and final rules be submitted to the Office of Management and Budget (OMB) for approval. OMB has approved the information collection requirements contained in this rule and assigned the OMB Control Number 2050-0062.

This rule modifies another information collection requirement that has been approved by OMB under the Paperwork Reduction Act and given the number 2050-0012. The appropriate changes to these requirements have been approved by OMB.

#### **XI. References**

##### *Background Documents*

- (1) U.S. EPA. "Background Document for Solvents, to Support Land Disposal Restrictions, Vol. I." U.S. EPA, OSW, Washington, DC, 1986.
- (2) U.S. EPA. "Background Document for Solvents, to Support Land Disposal Restrictions, Vol. II." U.S. EPA, OSW, Washington, DC, 1986.
- (3) U.S. EPA. "Background Document for Toxicity Characteristic Leaching Procedure: Final TCLP Response to Technical and Procedural Comments Pursuant to the Final Land Disposal Restrictions Rule for Solvents and Dioxins." U.S. EPA, OSW, Washington, DC, 1986.
- (4) U.S. EPA. "BDAT Background Document for F001-F005 Spent Solvents." U.S. EPA, OSW, Washington, DC, 1986.
- (5) U.S. EPA. "Comparative Risk Case Study for Metal-Bearing Solvent Wastes." U.S. EPA, OSW, Washington, DC, 1986.
- (6) U.S. EPA. "Thermal Treatment Background Information, to Support Land Disposal Restrictions." U.S. EPA, OSW, Washington, DC, 1986.

##### *Guidance Documents*

- (7) U.S. EPA. "Interim Status Surface Impoundments Retrofitting Variances Guidance Document." U.S. EPA, OSW, Washington, DC, EPA/530-SW-36-017, 1986.

- (8) U.S. EPA. "Waste Analysis Plans. A Guidance Manual." U.S. EPA, OSW, Washington, DC, 1984.

##### *Regulatory Impact Analysis*

- (9) U.S. EPA. "Regulatory Analysis of Restrictions on Land Disposal of Certain Dioxin-Containing Wastes." U.S. EPA, OSW, Washington, DC, 1986.
- (10) U.S. EPA. "Regulatory Analysis of Restrictions on Land Disposal of Certain Solvent Wastes." U.S. EPA, OSW, Washington, DC, 1986.

##### *Other References*

- (11) Acurex Corp. "Characterization of Hazardous Waste Incineration Residuals." U.S. EPA, Contract No. 68-03-3241, 1986.
- (12) ICF, Inc. "Assessment of Impacts of LDR on Ocean Disposal of Solvents, Dioxins, and California List Wastes." U.S. EPA, OSW, EPA Contract No. 68-01-7259, 1986.
- (13) ICF, Inc. "Scoping Analysis for RCRA Section 3005(j)(1)." U.S. EPA, OSW, EPA Contract No. 68-01-6621, 1985.
- (14) Industrial Economics. "Regulatory Analysis of Waste-As-Fuel Technical Standards." Prepared for U.S. EPA, OSW, Washington, DC, 1986.
- (15) Mitre Corp. "Incineration and Cement Kiln Capacity for Hazardous Waste Treatment." U.S. EPA, OSW, Washington, DC, 1986.
- (16) NATO Committee. "NATO-CCMS Pilot Study on Disposal of Hazardous Wastes." Annex V., NATO Committee on the Challenges of Modern Society, Brussels, Belgium, 1981.
- (17) Radian Corp. "Follow-Up Survey of Selected Facilities." U.S. EPA, Washington, DC, 1986.
- (18) Reed, R.J. *North American Combustion Handbook*, 1978.
- (19) U.S. EPA. "Analysis of the Quantity of Waste from CERCLA Actions." Raw Data. U.S. EPA, OERR, Washington, DC, 1986.
- (20) U.S. EPA. "Development Document for Effluent Limitations Guidelines and Standards for the Pharmaceutical Manufacturing Point Source Category." U.S. EPA, OW, Washington, DC, EPA/440-1-83/084, pp. 120-130, 1983.
- (21) U.S. EPA. "Telephone Verification Survey of Commercial Facilities That Manage Solvents." Compiled by Pope-Reid Assoc. and Radian Corp., U.S. EPA, OSW, Washington, DC, 1986.
- (22) U.S. EPA. "RCRA Method 8280 for the Analysis of Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans." U.S. EPA, OSW, Washington, DC, September 15, 1986.
- (23) Friedman, Paul (U.S. EPA, Office of Solid Waste). Memorandum entitled "Detection Limit of 8280 in TCLP Leachate." September 28, 1986.
- (24) U.S. EPA. "Background Document for Proposed Toxicity Characteristic Leaching Procedure." U.S. EPA, OSW, Washington, DC, March 10, 1986.

List of Subjects in 40 CFR Parts 260, 261, 262, 264, 265, 268, 270, and 271

Administrative practice and procedure, Confidential business information, Environmental protection,

Hazardous materials, Hazardous materials transportation, Hazardous waste, Imports, Indian lands, Insurance, Intergovernmental relations, Labeling, Packaging and containers, Penalties, Recycling, Reporting and recordkeeping requirements, Security measures, Surety bonds, Waste treatment and disposal, Water pollution control, Water supply.

Lee M. Thomas,

Administrator.

For reasons set out in the preamble, Chapter I of Title 40 is amended as follows:

#### **PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL**

##### **I. In Part 260:**

1. The authority citation for Part 260 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001 through 3007, 3010, 3014, 3015, 3017, 3018, and 3019, Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 8905, 8912(a), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, and 6939).

§§ 260.1, 260.2, 260.3, 260.10, 260.20 [Amended]

2. By inserting in the first sentence "and 268" after the phrase "Parts 260 through 265" in the following places:
  - a. 40 CFR 260.1 (a) and (b)(1) through (4).
  - b. 40 CFR 260.2(a).
  - c. 40 CFR 260.3 introductory text.
  - d. 40 CFR 260.10 introductory text.
  - e. 40 CFR 260.20(a).

##### **§ 260.2 [Amended]**

3. In § 260.2, paragraph (b) is amended by inserting "and 268" after the phrase "Parts 260 through 266".

#### **PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE**

##### **II. In Part 261:**

1. The authority citation for Part 261 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921, and 6922).

§§ 261.1, 261.4, 261.20, 261.30 [Amended]

2. By adding the Part number "268," after the phrase "Parts 262 through 265" in the following places:
  - a. 40 CFR 261.1(a) introductory text;
  - b. 40 CFR 261.4(c);
  - c. 40 CFR 261.20(b); and
  - d. 40 CFR 261.30(c).

**§ 261.1 [Amended]**

3. In § 261.1, paragraph (a)(1) is amended by inserting ", 268" after the phrase "Parts 262 through 266".

**§ 261.4 [Amended]**

4. By removing from paragraph (d)(1) introductory text of § 261.4 the Part number "267" and inserting the Part number "268" in its place.

**§ 261.5 [Amended]**

5. In § 261.5 paragraphs (b), (c), (e) introductory text, and (f)(2) are amended by inserting ", 268." after the phrase "Parts 262 through 266".

6. In § 261.5 paragraph (g)(2) is amended by inserting ", 268." after the phrase "Parts 263 through 266".

**§ 261.6 [Amended]**

7. In § 261.6 paragraph (a)(3) introductory text is amended by inserting Part number "268." after the phrase "Part 262 through 266 or Parts".

8. By revising paragraph (c)(1) of § 261.6 to read as follows:

**§ 261.6 Requirements for recyclable materials.**

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of Subparts A through L of Parts 264 and 265, and under Parts 124, 266, 268, and 270 of this Chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation.)

**§ 261.7 [Amended]**

9. In § 261.7 paragraphs (a) (1)(ii) and (2)(ii) are amended by adding the Part number "268." after the phrase "Parts 261 through 265, or Part".

**PART 262—STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE****III. In Part 262:**

1. The authority citation for Part 262 continues to read as follows:

Authority: Secs. 1006, 2002, 3001, 3002, 3003, 3004, 3005, and 3017 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6906, 6912, 6922 through 6925, and 6937).

**Subpart A—General**

2. In § 262.11, paragraph (d) is added to read as follows:

**§ 262.11 Hazardous waste determination.**

(d) If the waste is determined to be hazardous, the generator must refer to Parts 264, 265, 268 of this chapter for possible exclusions or restrictions pertaining to management of his specific waste.

**PART 263—STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE****IV. In Part 263:**

1. The authority citation for Part 263 is revised to read as follows:

Authority: Secs. 2002(a), 3002, 3003, 3004 and 3005 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 and as amended by the Quiet Communities Act of 1978, (42 U.S.C. 6912a, 6922, 6923, 6924, 6925).

**Subpart A—General****§ 263.12 [Amended]**

2. By inserting ", 268" after the phrase "Parts 270, 264, and 265".

**PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES****V. In Part 264:**

1. The authority citation for Part 264 continues to read as follows:

Authority: Secs. 1006, 2002, 3004, and 3005 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912, 6924, and 6925).

**Subpart B—General Facility Standards**

2. In § 264.13, by revising paragraphs (a)(1) and (b)(6) and adding paragraph (b)(7) to read as follows:

**§ 264.13 General waste analysis.**

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this part of Part 268 of this chapter or with the conditions of a permit issued under Part 270 and Part 124 of this chapter.

(b) \* \* \*

(6) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 264.17, 264.314, 264.341 and 268.7 of this chapter.

(7) For surface impoundments exempted from land disposal

restrictions under § 268.4(a), the procedures and schedules for:

(i) The sampling of impoundment contents:

(ii) The analysis of test data; and.

(iii) The annual removal of residue which does not meet the standards of Part 268 Subpart D of this chapter.

**Subpart E—Manifest System, Recordkeeping, and Reporting**

3. In § 264.73, by revising paragraph (b)(3) and adding paragraphs (b)(10) through (b)(14) to read as follows:

**§ 264.73 Operating record.**

(b) \* \* \*

(3) Records and results of waste analyses performed as specified in §§ 264.13, 264.17, 264.314, 264.341, 268.4(a), and 268.7 of this chapter.

(10) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5 or a petition pursuant to § 268.6, and the notice required by a generator under § 268.7(a)(3);

(11) For an off-site treatment facility, a copy of the notice required by a generator under § 268.7(a)(1);

(12) For an on-site treatment facility, the information contained in the notice required by a generator under § 268.7(a)(1), except for the manifest number;

(13) For an off-site land disposal facility, a copy of the notice and certification required by the owner or operator of a treatment facility under § 268.7(b) (1) and (2), or a copy of the notice and certification required by the generator under § 268.7(a)(2), whichever is applicable; and

(14) For an on-site land disposal facility, the information contained in the notice required under § 268.7(a)(2), except for the manifest number, or the information contained in the notice required by a treater under § 268.7(b)(1), except for the manifest number, whichever is applicable.

(Approved by Office of Management and Budget under control number 2050-0012)

**PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT STORAGE AND DISPOSAL FACILITIES****VI. In Part 265:**

1. The authority citation for Part 265 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, 3005 and 3015 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, 6925, and 6935).

#### Subpart B—General Facility Standards

2. In § 265.13, paragraphs (a)(1) and (b)(6) are revised and paragraph (b)(7) is added to read as follows:

##### § 265.13 General waste analysis.

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this part and Part 268 of this chapter.

(b) . . .

(6) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402 and 268.7 of this chapter.

(7) For surface impoundments exempted from land disposal restrictions under § 268.4(a) of this chapter, the procedures and schedule for:

- (i) The sampling of impoundment contents;
- (ii) The analysis of test data; and,
- (iii) The annual removal of residue which does not meet the standards of Part 268 Subpart D of this chapter.

#### Subpart E—Manifest System, Recordkeeping, and Reporting

3. In § 265.73, by revising paragraph (b)(3) and adding paragraphs (b)(8) through (b)(12) to read as follows:

##### § 265.73 Operating record.

(b) . . .

(3) Records and results of waste analysis and trial tests performed as specified in §§ 265.13, 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 268.4(a) and 268.7 of this chapter.

(8) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5, or a petition

pursuant to § 268.6 and the notice required by a generator under § 268.7(a)(3).

(9) For an off-site treatment facility, the notice required by a generator under § 268.7(a)(1);

(10) For an on-site treatment facility the information contained in the notice required by a generator under § 268.7(a)(1), except for the manifest number.

(11) For an off-site land disposal facility, the notice and certification required by the owner or operator of a treatment facility under § 268.7(b) or the certification required by the generator under § 268.7(a)(2), whichever is applicable;

(12) For an on-site land disposal facility, the information contained in the notice required by a generator under § 268.7(a)(2), except for the manifest number, or the information contained in the notice required by the treatment facility under § 268.7(b)(2), except for the manifest number, whichever is applicable.

(Approved by Office of Management and Budget under control number 2050-0012)

#### PART 268—LAND DISPOSAL RESTRICTIONS

##### VII. In Part 268:

1. The authority citation for Part 268 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921, and 6924).

2. By adding Subparts A, C, D, and E to Part 268 to read as follows:

##### Subpart A—General

- 268.1 Purpose, scope, and applicability.
- 268.2 Definitions applicable to this part.
- 268.3 Dilution prohibited as a substitute for treatment.
- 268.4 Treatment surface impoundment exemption.
- 268.5 Procedures for case-by-case extensions to an effective date.
- 268.6 Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.
- 268.7 Waste analysis.

##### Subpart C—Prohibitions on Land Disposal

- 268.30 Waste specific prohibitions—Solvent wastes.
- 268.31 Waste specific prohibitions—Dioxin-containing wastes.

##### Subpart D—Treatment Standards

- 268.40 Applicability of treatment standards.
- 268.41 Treatment standards expressed as concentrations in waste extract.
- 268.42 Treatment standards expressed as specified technologies.

268.43 Treatment standards expressed as waste concentrations. [Reserved]

268.44 Variance from a treatment standard.

##### Subpart E—Prohibitions on Storage

268.50 Prohibitions on storage of restricted wastes.

Appendix I to Part 268—Toxicity Characteristic Leaching Procedure (TCLP)

Appendix II to Part 268—Treatment Standards (As Concentrations in the Treatment Residual Extract)

##### Subpart A—General

##### § 268.1 Purpose, scope and applicability.

(a) This part identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

(b) Except as specifically provided otherwise in this part or Part 261 of this chapter, the requirements of this part apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

(c) Prohibited wastes may continue to be land disposed as follows:

(1) Persons have been granted an extension from the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition; or

(3) Until November 8, 1988, land disposal of contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under the Resource Conservation and Recovery Act.

(4) Small quantity generators of less than 100 kilograms of hazardous waste per month, as defined in § 261.5 of this chapter.

##### § 268.2 Definitions applicable to this part.

(a) When used in this part the following terms have the meanings given below:

"Hazardous constituent or constituents" means those constituents listed in Appendix VIII to Part 261 of this chapter.

"Land disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility,

salt dome formation, salt bed formation, underground mine or cave, concrete vault or bunker intended for disposal purposes, and placement in or on the land by means of open detonation and open burning where the residues continue to exhibit one or more of the characteristics of hazardous waste. The term "land disposal" does not encompass ocean disposal.

(b) All other terms have the meanings given under §§ 260.10, 261.2, 261.3, or 270.2 of this chapter.

**§ 268.3 Dilution prohibited as a substitute for treatment.**

No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with Subpart D of this part.

**§ 268.4 Treatment surface impoundment exemption.**

(a) The requirements of this part do not apply to persons treating hazardous wastes in a surface impoundment or series of impoundments provided that:

(1) Treatment of such wastes occurs in the impoundment;

(2) The residues of the treatment are analyzed, as specified in § 268.7, to determine if they meet the applicable treatment standards in § 268.41. The sampling method, specified in the waste analysis plan under § 264.13 or § 265.13, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples. The treatment residues (including any liquid waste) that do not meet the treatment standards promulgated under Subpart D of this part, or are not delisted under § 260.22 of this chapter, must be removed at least annually. These residues may not be placed in any other surface impoundment for subsequent management. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement. The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residue which does not meet the Subpart D treatment standards must be specified in the facility's waste analysis plan as required under §§ 264.13 or 265.13 of this chapter;

(3) The impoundment must meet the design requirements of § 264.221(c) or § 265.221(a) of this chapter, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable ground water monitoring requirements of Subpart F of Part 264 or Part 264 of this chapter unless:

(i) Exempted pursuant to § 264.221 (d) or (e) of this chapter, or to § 265.221 (c) or (d) of this chapter; or,

(ii) Upon application by the owner or operator, the Administrator has granted a waiver of the requirements on the basis that the surface impoundment:

(A) Has at least one liner, for which there is no evidence that such liner is leaking;

(B) Is located more than one-quarter mile from an underground source of drinking water; and

(C) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or,

(iii) Upon application by the owner or operator, the Administrator has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(4) The owner or operator must submit to the Regional Administrator a written certification that the requirements of § 268.4(a)(3) have been met and submits a copy of the waste analysis plan required under § 268.4(a)(2). The following certification is required:

I certify under penalty of law that the requirements of 40 CFR 268.4(a)(3) have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

**§ 268.5 Procedures for case-by-case extensions to an effective date.**

(a) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the Administrator for an extension to the effective date of any applicable restriction established under Subpart C of this Part. The applicant must demonstrate the following:

(1) He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under Subpart C of this Part;

(2) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Subpart D;

(3) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

(4) The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

(5) He provides a detailed schedule for obtaining required operating and construction permits on an outline of how and when alternative capacity will be available;

(6) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(7) Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of this section.

(b) An authorized representative signing an application described under paragraph (a) of this section shall make the following certification:

I certify under penalty of law that I have personally examined and that I am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(c) After receiving an application for an extension, the Administrator may request any additional information which he deems as necessary to evaluate the application.

(d) An extension will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

(e) On the basis of the information referred to in paragraph (a) of this section, after notice and opportunity for comment, and after consultation with appropriate State agencies in all affected States, the Administrator may grant an extension of up to 1 year from

the effective date. The Administrator may review this extension for up to 1 additional year upon the request of the applicant if the demonstration required in paragraph (a) of this section can still be made. In no event will an extension extend beyond 24 months from the applicable effective date specified in Subpart C of Part 268. The length of any extension authorized will be determined by the Administrator based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in paragraph (a)(5) of this section. The Administrator will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the *Federal Register*.

(f) Any person granted an extension under this section must immediately notify the Administrator as soon as he has knowledge of any change in the conditions certified to in the application.

(g) Any person granted an extension under this section shall submit written progress reports at intervals designated by the Administrator. Such reports must describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; must identify any event which may cause or has caused a delay in the development of the capacity; and must summarize the steps taken to mitigate the delay. The Administrator can revoke the extension at any time if the applicant does not demonstrate a good-faith effort to meet the schedule for completion, if the Agency denies or revokes any required permit, if conditions certified in the application change, or for any violation of this chapter.

(h) Whenever the Administrator establishes an extension to an effective date under this section, during the period for which such extension is in effect:

- (1) The storage restrictions under § 268.50(a)(1) do not apply; and
- (2) Such hazardous waste may be disposed of at a facility only if each new landfill or surface impoundment unit, each replacement of an existing landfill or surface impoundment unit, and each lateral expansion of an existing landfill or surface impoundment unit at the facility is in compliance with the following requirements:

(i) The landfill, if the interim status, is in compliance with the requirements of Subpart F of Part 265 and § 265.301 (a), (c), and (d) of this chapter; or,

(ii) The landfill, if permitted, is compliance with the requirements of

Subpart F of Part 264 and § 264.301 (c), (d) and (e) of this chapter;

(iii) The surface impoundment, if in interim status, is in compliance with the requirements of Subpart F of Part 265 and § 265.221 (a), (c), and (d) of this chapter regardless that the unit is not new, expanded or a replacement; or,

(iv) The surface impoundment, if permitted, is in compliance with the requirements of Subpart F of Part 264 and § 264.221 (c), (d) and (e) of this chapter.

(j) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(Approved by the Office of Management and Budget under control number 2050-0062)

#### **§ 268.6 Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.**

(a) Any person seeking an exemption from a prohibition under Subpart C of this part for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the Administrator demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components:

- (1) An identification of the specific waste and the specific unit for which the demonstration will be made;
- (2) A waste analysis to describe fully the chemical and physical characteristics of the subject waste;
- (3) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality.

(b) The demonstration referred to in paragraph (a) of this section must meet the following criteria:

- (1) All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;
- (2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the Administrator;
- (3) Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;
- (4) A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the Administrator; and,

(5) An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

(c) Each petition must be submitted to the Administrator.

(d) Each petition must include the following statement signed by the petitioner or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(e) After receiving a petition, the Administrator may request any additional information that reasonably may be required to evaluate the demonstration.

(f) If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

(g) The Administrator will give public notice in the *Federal Register* of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the *Federal Register*.

(h) The term of a petition granted under this section shall be no longer than the term of the RCRA permit if the disposal unit is operating under a RCRA permit, or up to a maximum of 10 years from the date of approval provided under paragraph (g) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a RCRA permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

(i) Prior the Administrator's decision, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(j) The petition granted by the Administrator does not relieve the petitioner of his responsibilities in the management of hazardous waste under 40 CFR Part 260 through Part 271.

(Approved by the Office of Management and Budget under control number 2050-0062)

#### § 268.7 Waste analysis.

(a) The generator must test his waste or an extract developed using the test method described in Appendix I of this part, or using knowledge of the waste to determine if the waste is restricted from land disposal under this part.

(1) If a generator determines that he is managing a restricted waste under this part and the waste requires treatment prior to land disposal, for each shipment of waste the generator must notify the treatment facility in writing of the appropriate treatment standard set forth in Subpart D of this part. The notice must include the following information:

- (i) EPA Hazardous Waste Number;
- (ii) The corresponding treatment standard;
- (iii) The manifest number associated with the shipment of waste; and
- (iv) Waste analysis data, where available.

(2) If a generator determines that he is managing a restricted waste under this part, and determines that the waste can be land disposed without further treatment, for each shipment of waste he must submit, to the land disposal facility, a notice and a certification stating that the waste meets applicable treatment standards.

(i) The notice must include the following information:

- (A) EPA Hazardous Waste Number;
- (B) The corresponding treatment standard;
- (C) The manifest number associated with the shipment of waste;
- (D) Waste analysis data, where available.

(ii) The certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(3) If a generator's waste is subject to a case-by-case extension under § 268.5, a petition under § 268.6, or a nationwide variance under Subpart C, he must forward a notice to the land disposal

facility receiving his waste, stating that the waste is exempt from the land disposal restrictions.

(b) For wastes with treatment standards expressed as concentrations in the waste extract (§ 268.41), the owner or operator of the treatment facility must test the treatment residues according to the waste analysis plan under §§ 264.13 or 265.13, or an extract development using the test method described in Appendix I of this part to assure that the treatment residues extract meet the applicable treatment standards.

(10) A notice must be sent to the land disposal facility which includes the following information:

- (i) EPA Hazardous Waste Number;
- (ii) The corresponding treatment standard;
- (iii) The manifest number associated with the shipment of waste; and
- (iv) Waste analysis data, where available.

(2) The treatment facility must submit a certification for each shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated to the performance standards specified in Subpart D.

(i) For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (§§ 268.41 or 268.43), the certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to achieve the performance levels specified in 40 CFR Part 268 Subpart D without dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(ii) For wastes with treatment standards expressed as technologies (§ 268.42), the certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(c) The owner or operator of any land disposal facility accepting any waste subject to restrictions under this part

must have records of the notice and certification specified in either paragraph (a) or (b) of this section and obtain waste analysis data through testing of the waste to determine that the wastes are in compliance with the applicable treatment standards in § 268.41.

(Approved by the Office of Management and Budget under control number 2050-0062)

#### Subpart C—Prohibitions on Land Disposal

##### § 268.30 Waste specific prohibitions—Solvent wastes.

(a) Effective November 8, 1986, the spent solvent wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005, are prohibited from land disposal (except in an injection well) unless one or more of the following conditions apply:

(1) The generator of the solvent waste is a small quantity generator of 100–1000 kilograms of hazardous waste per month; or

(2) The solvent waste is generated from any response action taken under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or any corrective action taken under the Resource Conservation and Recovery Act (RCRA), except where the waste is contaminated soil or debris not subject to the provisions of this chapter until November 8, 1988; or

(3) The solvent waste is a solvent-water mixture, solvent-containing sludge, or solvent-contaminated soil (non-CERCLA or RCRA corrective action) containing less than 1 percent total F001–F005 solvent constituents listed in Table CCWE of § 268.41 of this part.

(b) Effective November 8, 1988, the F001–F005 solvent wastes listed in paragraphs (a) (1), (2), and (3) of this section are prohibited from land disposal. Between November 8, 1986, and November 8, 1988, wastes included in paragraphs (a) (1), (2), and (3) of this section may be disposed of in a landfill or surface impoundment only if the facility is in compliance with the requirements specified in § 268.5(h)(2).

(c) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes are treated to meet the standards of Subpart D of this part; or

(2) The wastes are disposed at a facility that has been granted a petition under § 268.6; or

(3) An extension has been granted under § 268.5.



**§ 268.31 Waste specific prohibitions—Dioxin-containing wastes.**

(a) Effective November 8, 1988, the dioxin-containing wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F020, F021, F023, F026, F027, and F028, are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes are treated to meet the standards of Subpart D of this part; or,

(2) The wastes are disposed at a facility that has been granted a petition under § 268.6; or

(3) An extension has been granted under § 268.5.

(c) Between November 8, 1986, and November 8, 1988, wastes included in paragraph (a) of this section may be disposed of in a landfill or surface impoundment only if the facility is in compliance with the requirements specified in § 268.5(h)(2).

**Subpart D—Treatment Standards**

**§ 268.40 Applicability of treatment standards.**

A restricted waste identified in this subpart may be land disposed without further treatment only if an extract of the waste or of the treatment residual of the waste developed using the test method of Appendix I of this part does not exceed the value shown in Table CCWE of § 268.41 for any hazardous constituent listed in Table CCWE for that waste. A restricted waste for which a treatment technology is specified under § 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in § 268.42(b).

**§ 268.41 Treatment Standards expressed as concentrations in waste extract.**

(a) Table CCWE identifies the restricted wastes and the concentrations of their associated hazardous constituents which may not be exceeded by the extract of a waste treatment residual developed using the test method in Appendix I of this part for the allowable land disposal of such waste. (Appendix II of this part provides Agency guidance on treatment methods that have been shown to achieve the Table CCWE levels for the respective wastes. Appendix II is not a regulatory requirement but is provided to assist generators and owners/operators in their selection of appropriate treatment methods.)

**TABLE CCWE—CONSTITUENT IN WASTE EXTRACT**

F001—F005 spent solvents	Concentration (in mg/l)	
	Wastewaters containing spent solvents	All other spent solvent wastes
Acetone.....	0.05	0.59
n-Butyl alcohol.....	5.0	5.0
Carbon disulfide.....	1.05	4.81
Carbon tetrachloride.....	.05	.96
Chlorobenzene.....	.15	.05
Cresols (and cresylic acid).....	2.82	.75
Cyclohexanone.....	.125	.75
1,2-dichlorobenzene.....	.65	.125
Ethyl acetate.....	.05	.75
Ethyl benzene.....	.05	.053
Ethyl ether.....	.05	.75
Isobutanol.....	5.0	5.0
Methanol.....	.25	.75
Methylene chloride.....	20	.96
Methylene chloride (from the pharmaceutical industry).....	12.7	.96
Methyl ethyl ketone.....	0.05	0.75
Methyl isobutyl ketone.....	0.05	0.33
Nitrobenzene.....	0.66	0.125
Pyridine.....	1.12	0.33
Tetrachloroethylene.....	0.079	0.05
Toluene.....	1.12	0.33
1,1,1-Trichloroethane.....	1.05	0.41
1,2,2-Trichloro-1,2,2-trifluoroethane.....	1.05	0.96
Trichloroethylene.....	0.062	0.091
Trichlorofluoromethane.....	0.05	0.96
Xylene.....	0.05	0.15

F020—F023 and F026—F028 dioxin containing wastes	Concentration
HxCDD—All Hexachlorodibenzo-p-dioxins.....	< 1 ppb
HxCDF—All Hexachlorodibenzofurans.....	< 1 ppb
PeCDD—All Pentachlorodibenzo-p-dioxins.....	< 1 ppb
PeCDF—All Pentachlorodibenzofurans.....	< 1 ppb
TCDD—All Tetrachlorodibenzo-p-dioxins.....	< 1 ppb
TCDF—All Tetrachlorodibenzofurans.....	< 1 ppb
2,4,5-Trichlorophenol.....	< 0.05 ppm
2,4,6-Trichlorophenol.....	< 0.05 ppm
2,3,4,6-Tetrachlorophenol.....	< 0.10 ppm
Pentachlorophenol.....	< 0.01 ppm

(b) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

**§ 268.42 Treatment standards expressed as specified technologies.**

(a) The following wastes must be treated using the identified technology or technologies, or an equivalent method approved by the Administrator.

(1) [Reserved]

(b) Any person may submit an application to the Administrator demonstrating that an alternative treatment method can achieve a level of performance equivalent to that achieved by methods specified in paragraph (a) of this section. The applicant must submit information demonstrating that his treatment method will not present an unreasonable risk to human health or the environment. On the basis of such information and any other available information, the Administrator may approve the use of the alternative treatment method if he finds that the alternative treatment method provides a

level of performance equivalent to that achieved by methods specified in paragraph (a) of this section. Any approval must be stated in writing and may contain such provisions and conditions as the Administrator deems appropriate. The person to whom such certification is issued must comply with all limitations contained in such determination.

**§ 268.43 Treatment standards expressed as waste concentrations. [Reserved]**

**§ 268.44 Variance from a treatment standard.**

(a) Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility may petition the Administrator for a variance from the treatment standard. The petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from wastes analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

(b) Each petition must be submitted in accordance with the procedures in § 260.20.

(c) After receiving a petition for variance from a treatment standard, the Administrator may request any additional information or samples which he may require to evaluate the petition. Additional copies of the complete petition may be requested as needed to send to affected states and Regional Offices.

(e) The Administrator will give public notice in the Federal Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a variance from a treatment standard will be published in the Federal Register.

(f) A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards must comply with the waste analysis requirements for restricted wastes found under § 268.7.

(g) During the petition review process, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

**Subpart E—Prohibitions on Storage**

**§ 268.50 Prohibitions on storage of restricted wastes.**

(a) Except as provided for in paragraph (b) of this section, the storage



of hazardous wastes restricted from land disposal under Subpart C of this Part is prohibited, unless the following conditions are met:

(1) A generator stores such wastes on-site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in § 262.34 of this chapter. (A generator who is in existence on the effective date of a regulation under this part and who must store hazardous wastes for longer than 90 days due to the regulations under this Part becomes an owner/operator of a storage facility and must obtain a RCRA permit. Such a facility may qualify for interim status upon compliance with the regulations governing interim status under 40 CFR 270.70).

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal provided that each container or tank is clearly marked to identify its contents and the date it entered storage.

(3) A transporter may store manifested shipments of such wastes at a transfer facility for 10 days or less.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) A owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(d) The prohibition in paragraph (a) of this section does not apply to the wastes which are the subject of an approved petition under § 268.6 or an approved case-by-case extension under § 268.5.

(e) The prohibition in paragraph (a) of this section does not apply to hazardous wastes that meet the treatment standards specified under §§ 268.41, 268.42 and 268.43 or the treatment standards specified under the variance in § 268.44.

## Appendix I to Part 268—Toxicity Characteristic Leaching Procedure (TCLP)

### 1.0 SCOPE AND APPLICATION

1.1 The TCLP is designed to determine the mobility of both organic and inorganic contaminants present in liquid, solid, and multiphasic wastes.

1.2 If a total analysis of the waste demonstrates that individual contaminants are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory thresholds could not possibly be exceeded, the TCLP need not be run.

### 2.0 SUMMARY OF METHOD (see Figure 1)

2.1 For liquid wastes (i.e., those containing insignificant solid material), the waste, after filtration through a 0.6- to 0.8-um glass fiber filter, is defined as the TCLP extract.

2.2 For wastes comprised of solids or for wastes containing significant amounts of solid material, the particle-size of the waste is reduced (if necessary), the liquid phase, if any, is separated from the solid phase and stored for later analysis. The solid phase is extracted with an amount of extraction fluid equal to 20 times the weight of the solid phase. The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatiles (See Table 1). Following extraction, the liquid extract is separated from the solid phase by 0.6- to 0.8-um glass fiber filter filtration.

2.3 If compatible (i.e., multiple phases will not form on combination), the initial liquid phase of the waste is added to the liquid extract, and these liquids are analyzed together. If incompatible, the liquids are analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

### 3.0 INTERFERENCES

3.1 Potential interferences that may be encountered during analysis are discussed in the individual analytical methods.

### 4.0 APPARATUS AND MATERIALS

4.1 *Agitation apparatus:* An acceptable agitation apparatus is one which is capable of rotating the extraction vessel in an end-over-end fashion (See Figure 2) at  $30 \pm 2$  rpm. Suitable devices known to EPA are identified in Table 2.

#### 4.2 *Extraction Vessel:*

4.2.1 *Zero-Headspace Extraction Vessel (ZHE).* This device is for use only when the waste is being tested for the mobility of volatile constituents (see Table 1). The ZHE is an extraction vessel that allows for liquid/solid separation within the device, and which effectively precludes headspace (as depicted in Figure 3). This type of vessel allows for initial liquid/solid separation, extraction, and final extract filtration without having to open the vessel (see Step 4.3.1). These vessels shall have an internal volume of 500 to 600 mL and be equipped to accommodate a 90-mm filter. Suitable ZHE devices known to EPA are identified in Table 3. These devices contain

viton O-rings which should be replaced frequently.

For the ZHE to be acceptable for use, the piston within the ZHE should be able to be moved with approximately 15 psi or less. If it takes more pressure to move the piston, the O-rings in the device should be replaced. If this does not solve the problem, the ZHE is unacceptable for TCLP analyses and the manufacturer should be contacted.

The ZHE should be checked after every extraction. If the device contains a built-in pressure gauge, pressurize the device to 50 psi, allow it to stand unattended for 1 hour, and recheck the pressure. If the device does not have a built-in pressure gauge, pressurize the device to 50 psi, submerge it in water, and check for the presence of air bubbles escaping from any of the fittings. If pressure is lost, check all fittings and inspect and replace O-rings, if necessary. Retest the device. If leakage problems cannot be solved, the manufacturer should be contacted.

4.2.2 When the waste is being evaluated for other than volatile contaminants, an extraction vessel that does not preclude headspace (e.g., a 2-liter bottle) is used. Suitable extraction vessels include bottles made from various materials, depending on the contaminants to be analyzed and the nature of the waste (see Step 4.3.3). It is recommended that borosilicate glass bottles be used over other types of glass, especially when inorganics are of concern. Plastic bottles may be used only if inorganics are to be investigated. Bottles are available from a number of laboratory suppliers. When this type of extraction vessel is used, the filtration device discussed in Step 4.3.2 is used for initial liquid/solid separation and final extract filtration.

4.2.3 Some ZHEs use gas pressure to actuate the ZHE piston, while others use mechanical pressure (see Table 3). Whereas the volatiles procedure (see Section 9.0) refers to pounds-per-square inch (psi), for the mechanically actuated piston, the pressure applied is measured in torque-inch-pounds. Refer to the manufacturer's instructions as to the proper conversion.

4.3 *Filtration Devices:* It is recommended that all filtrations be performed in a hood.

4.3.1 *Zero-Headspace Extractor Vessel* (see Figure 3): When the waste is being evaluated for volatiles, the zero-headspace extraction vessel is used for filtration. The device shall be capable of supporting and keeping in place the glass fiber filter, and be able to withstand the pressure needed to accomplish separation (50 psi).

**Note.**—When it is suspected that the glass fiber filter has been ruptured, an in-line glass fiber filter may be used to filter the material within the ZHE.

4.3.2 *Filter Holder:* When the waste is being evaluated for other than volatile compounds, a filter holder capable of supporting a glass fiber filter and able to withstand the pressure needed to accomplish separation is used. Suitable filter holders range from simple vacuum units to relatively complex systems capable of exerting pressures of up to 50 psi or more. The type of filter holder used depends on the properties of the material to be filtered (see Step 4.3.3).

SCREENING SITE INSPECTION REPORT  
FOR  
ALIGNED FIBER COMPOSITES, INC.  
CHATFIELD, MINNESOTA  
U.S. EPA ID: MND062859038  
SS ID: NONE  
TDD: F05-8910-007  
PAN: FMN0225SB

EPA Region 5 Records Ctr.



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JULY 8, 1991



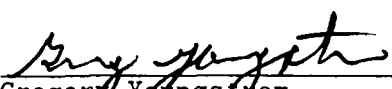
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FOR  
SCREENING SITE INSPECTION REPORT  
FOR  
ALIGNED FIBER COMPOSITES, INC.  
CHATFIELD, MINNESOTA  
U.S. EPA ID: MND062859038  
SS ID: NONE  
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## 1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Aligned Fiber Composites, Inc. (AFC), site under contract number 68-01-7347.

The site was initially discovered by the Minnesota Pollution Control Agency (MPCA) in October 1984. The site was discovered when MPCA approved the disposal of dehydrated settling lagoon sludge at the Olmstead County Sanitary Landfill by Aligned Fiber Composites, Inc. (Aligned Fiber).

The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Shawn Ruotsinoja of MPCA and is dated January 31, 1986.

FIT prepared an SSI work plan for the AFC site under technical directive document (TDD) F05-8910-007, issued on October 12, 1989. The SSI work plan was approved by U.S. EPA on April 27, 1990. The SSI of the AFC site was conducted on June 25 and 26, 1990, under amended TDD F05-8910-007, issued on April 27, 1990.

The FIT SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of five soil/sediment samples and two groundwater samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined



preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

## 2. SITE BACKGROUND

### 2.1 INTRODUCTION

This section presents information obtained from SSI work plan preparation, the site representative interview, and the reconnaissance inspection of the site.

### 2.2 SITE DESCRIPTION

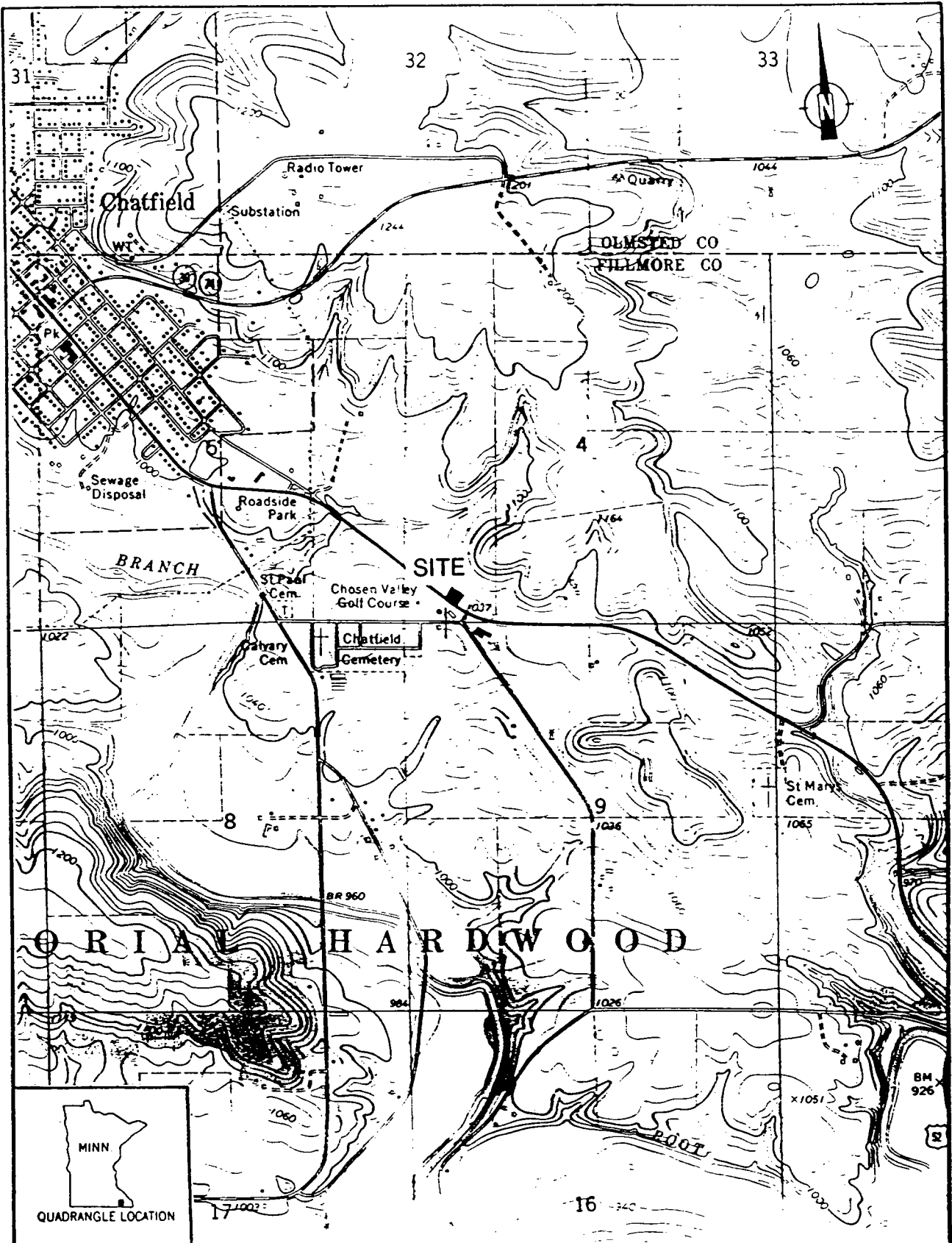
The AFC site is a 24-acre parcel of land upon which an active manufacturer of fiberglass products is located. The site is located on Highway 52 South, approximately 1 mile southeast of Chatfield, Fillmore County, Minnesota (SW1/4SW1/4 sec. 4, T.104N., R.11W.) (see Figure 2-1 for site location). The North Branch of the Root River is located approximately 1/2 mile west of the site.

A 4-mile radius map of the AFC site is provided in Appendix A.

### 2.3 SITE HISTORY

The facility has been operated by Aligned Fiber since 1975, when it purchased the site from Clarence Perkins. Perkins had used the site as farmland. Aligned Fiber owned the site and the manufacturing facility until January 1, 1987, when Morrison Molded Fiber Glass Company (MMFG), Bristol, Virginia, purchased the site. MMFG's parent company is Shell Polymer and Catalyst Enterprises, Houston, Texas. Currently, Aligned Fiber employs 140 people at the facility (Thorson and White 1990).

Aligned Fiber manufactures structural fiberglass materials, including industrial flooring, fence posts, and carbon reinforced arrow



SOURCE: USGS, Chatfield, MN Quadrangle, 7.5 Minute Series, 1974.



FIGURE 2-1 SITE LOCATION

shafts. The manufacturing process, known as "pultrusion," involves pulling a fibrous glass material through a steel mold. Fiberglass is made at the plant by combining glass with polyester and vinyl ester resins, then adding an organic peroxide as a catalyst to speed the reactive resin hardening process. This results in the formation of an inert polymerized material (Thorson and White 1990).

In the original process fiberglass dust was disposed of with contact cooling water. The contact cooling water was run over the fiberglass while it was being trimmed. A settling pond was built in 1975, into which both contact and noncontact cooling water was discharged. Aligned Fiber had a National Pollutant Discharge Elimination System (NPDES) permit for this discharge. Two more settling ponds were built in 1976. Each of the ponds had a surface area of approximately 3,000 square feet. At approximately the same time that the settling ponds were opened, Aligned Fiber had two underground storage tanks installed. These tanks were each designed to hold 2,500 gallons of virgin styrene (Thorson and White 1990).

In 1984, 375 cubic yards, and in 1985, 200 cubic yards, of settling pond sludge was disposed of at Olmstead County Landfill. One of the settling ponds was filled in 1985 to accommodate plant expansion, while another pond was built to replace it. The new pond was approximately the same size as the other ponds (Thorson and White 1990).

MPCA inspected the AFC site on January 23, 1985, in accordance with Chapter 7045 of Minnesota Hazardous Waste Rules. MPCA noted that waste acetone, waste dichloromethane, and waste pigment were stored outside of the manufacturing facility, in a semitrailer that lacked any means of containing spills; Aligned Fiber lacked a personnel training program for employees involved with hazardous waste management; Aligned Fiber had no contingency plan for hazardous waste spills; and Aligned Fiber's annual disclosure form had not been updated. Aligned Fiber corrected these violations and, on October 31, 1985, MPCA informed Aligned Fiber that it had returned to compliance (Thorson and White 1990).

In December 1986 approximately 600 gallons of styrene was spilled. The spill occurred in the chemical storage building, as styrene was being pumped into an underground storage tank. Both MPCA and the U.S.

EPA National Response Center were notified that the spill had occurred. Aligned Fiber cleaned up the spill by covering the styrene with sand and placing the mixture in 75, 55-gallon drums. On February 2, 1988, a soil boring was performed by Twin City Testing, Minneapolis, Minnesota, to determine styrene levels in the area in which the spill had occurred. The styrene concentration at a depth of 1 foot or less was 340 ppm, at a depth of 1 to 2 1/2 feet the concentration was 530 ppm, between 2 1/2 and 4 1/2 feet the concentration was 4 ppm, and between 4 1/2 and 6 1/2 feet the concentration was 31 ppm. The report from Twin City Testing was submitted to MPCA in a letter regarding disposal options for the 75 drums of styrene-contaminated sand. MPCA determined that the sand in the drums would not be classified as hazardous waste under Minnesota Hazardous Waste Rules. MPCA also forwarded three disposal options for the drums: incineration at an asphalt plant, disposal at a sanitary landfill, or to land-apply the contaminated sand at an MPCA-approved site. Aligned Fiber contracted with Chemical Waste Management, Oak Brook, Illinois, to dispose of the drums. In October 1988 the drums were transported by Controlled Waste, Menomonee Falls, Wisconsin, to Metro Landfill in Franklin, Wisconsin. After these actions by Twin City Testing, no further cleanup of the styrene spill occurred (Thorson and White 1990; U.S. EPA 1986).

MPCA conducted a second inspection of the AFC site on August 12, 1987. MPCA noted the following violations: weekly inspections of hazardous waste storage areas had not been documented; all personnel that handled hazardous waste did not have an annual review of hazardous waste training; and copies of the contingency plan had not been sent to the local fire department and police station (Thorson and White 1990).

At the same time as the inspection by MPCA, U.S. EPA conducted an inspection concerning the land disposal restrictions for the solvent wastes listed in classes F001 through F005 of RCRA. Aligned Fiber was found to be in violation of the requirement to provide written notification to receiving facilities of the following information: U.S. EPA hazardous waste number, applicable treatment standards if the waste is to be disposed of on land, the manifest number associated with the shipment of the waste, and waste analysis when available. Aligned Fiber corrected these violations and, on October 14, 1987, MPCA provided

notice that Aligned Fiber had returned to compliance with Minnesota Hazardous Waste Rules (Thorson and White 1990).

In November 1987 Aligned Fiber voluntarily removed the two underground storage tanks. The tanks were removed by Bessingpas Excavating, Chatfield, Minnesota. The tanks were cleaned by Rochester Petrol Products, Rochester, Minnesota, and the waste was disposed of with Aligned Fiber's regular solid waste. Soil in the area from which the tanks were removed was tested by Twin City Testing. No styrene was detected in the three locations from which samples were collected (Thorson and White 1990).

All of the settling ponds were filled in 1988, when a baghouse dust collection system was installed to replace them. Engineered fill material was used to fill in the ponds and to cap them to a depth of 4 to 5 feet above the original grade of the ponds (Thorson and White 1990).

The baghouse system is a dry collection system. Therefore, there is no need for contact cooling water. With the elimination of fiberglass dust from the discharge waste, Aligned Fiber applied for a new NPDES permit to allow it to discharge directly to an intermittent creek that flows into the North Branch of the Root River. This permit was approved by MPCA, and Aligned Fiber is currently operating under the new permit. Aligned Fiber tests the point of discharge monthly and at the time of renewal of the permit. Tests from March 1988 showed the following results: oils and grease <1.1 mg/L, pH 7.99, suspended solids <1 mg/L, and turbidity 1.03. These tests were conducted by Davy Laboratories of LaCrosse, Wisconsin (Thorson and White 1990).

Aligned Fiber is classified under RCRA as a large quantity generator of waste acetone, waste methylene chloride, waste methyl ethyl ketone (MEK), and waste mineral spirits. The RCRA wastes are shipped off-site within 90 days. The acetone, methylene chloride, and MEK are transported by Hydrite Chemical Company to Auganic Industries, Inc., Cottage Grove, Wisconsin. Waste mineral oils are shipped by Safety-Kleen Corporation to its own facility in LaCrosse, Wisconsin. Aligned Fiber disposes of approximately 8,400 pounds of waste acetone, 7,800 pounds of waste methylene chloride, 440 pounds of waste MEK, and 45 pounds of waste mineral oils every 90 days (Thorson and White 1990).

Aligned Fiber produces approximately 13,000 pounds of waste paint filters each year. These filters are incinerated by Olmstead Waste to Energy, Rochester, Minnesota. Waste oil that Aligned Fiber produces is returned to its supplier, Fisher Oil, Rochester, Minnesota, for disposal. From 1975 to 1982 Aligned Fiber used waste oils to coat parking lots rather than shipping them off-site. In 1989 Aligned Fiber purchased 660 gallons of hydraulic oil, 110 gallons of heat-transfer oil, and 55 gallons of compressor oil (Thorson and White 1990).

Catalyzed resin sludge is generated at the rate of approximately 30,000 pounds per year. This material has been landfilled in Spring Valley, Minnesota; in New Hampton, Iowa; and currently in Decorah, Iowa (Thorson and White 1990).

Aligned Fiber also generates waste laboratory packs from its chemistry laboratory. These laboratory packs contain waste acids, waste alkalines, waste flammable liquids, and other wastes listed by Aligned Fiber as "non-regulated special waste." The wastes are hauled off-site by Chemical Waste Management, Oak Brook, Illinois, and disposed of in its own facility. There is no regulatory action currently taking place at the site (Thorson and White 1990).

### 3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

#### 3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the AFC site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the AFC site is provided in Appendix B.

#### 3.2 SITE REPRESENTATIVE INTERVIEW

Mike McAteer, FIT team leader, conducted an interview with Dennis Thorson, Plant Engineer, Aligned Fiber, and Allen White, Safety Director, MMFG. The interview was conducted at Aligned Fiber on June 25, 1990, at 1:00 p.m. Also present at the interview was Reggie Suga, FIT team member. The interview was conducted to gather information that would aid FIT in conducting SSI activities.

#### 3.3 RECONNAISSANCE INSPECTION

Following the site representative interview, FIT conducted a reconnaissance inspection of the AFC site and surrounding area in accordance with Ecology and Environment, Inc. (E & E), health and safety guidelines. The reconnaissance inspection began at 8:45 a.m. on June 26, 1990, and included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. FIT also



determined sampling locations during the reconnaissance inspection. FIT was accompanied by Thorson and White during the reconnaissance inspection.

Reconnaissance Inspection Observations. The 24-acre AFC site consists of an active manufacturing facility for fiberglass products located in an industrial park approximately 1 mile southeast of Chatfield, Minnesota. The AFC site is irregularly shaped and is bounded on the north by County Highway 5, on the south by U.S. Highway 52, on the east by an unnamed road that joins the two highways, and on the west by Touhy Corporation's plant # 4 (see Figure 3-1 for site features). There is a wooded hillside on the eastern portion of the site, and the site slopes toward the west where an intermittent creek provides surface water drainage.

The manufacturing building is L-shaped. The junction of the two wings of the facility forms the southern point of the building; one wing is oriented toward the northwest, and the other wing is oriented toward the northeast. The building is surrounded by a band of gravel varying from 20 to 150 feet wide. The area beyond the gravel band is grass fields and, on the west, a field of alfalfa.

On the south side of the building is a gravel parking lot with a driveway that leads to Highway 52. In the alfalfa field on the west side of the site is the outfall, which is located approximately 200 feet northwest of the manufacturing building. A septic field is located north of the building, between the gravel and the fence. A RCRA waste storage trailer is located approximately 100 feet west of the northeast wing of the building. Immediately east of the RCRA trailer is a waste paint storage trailer. The baghouse dust collector is located on the north side of the building, where the wings join. A bulk styrene storage trailer was located east of the manufacturing building. A chemical storage building for laboratory packs is located approximately 50 feet southwest of the styrene storage trailer. Empty drums were stored between the manufacturing building and the styrene trailer, and between the manufacturing building and the chemical storage building. An organic peroxide storage building is located approximately 250 feet southeast of the east corner of the manufacturing building.

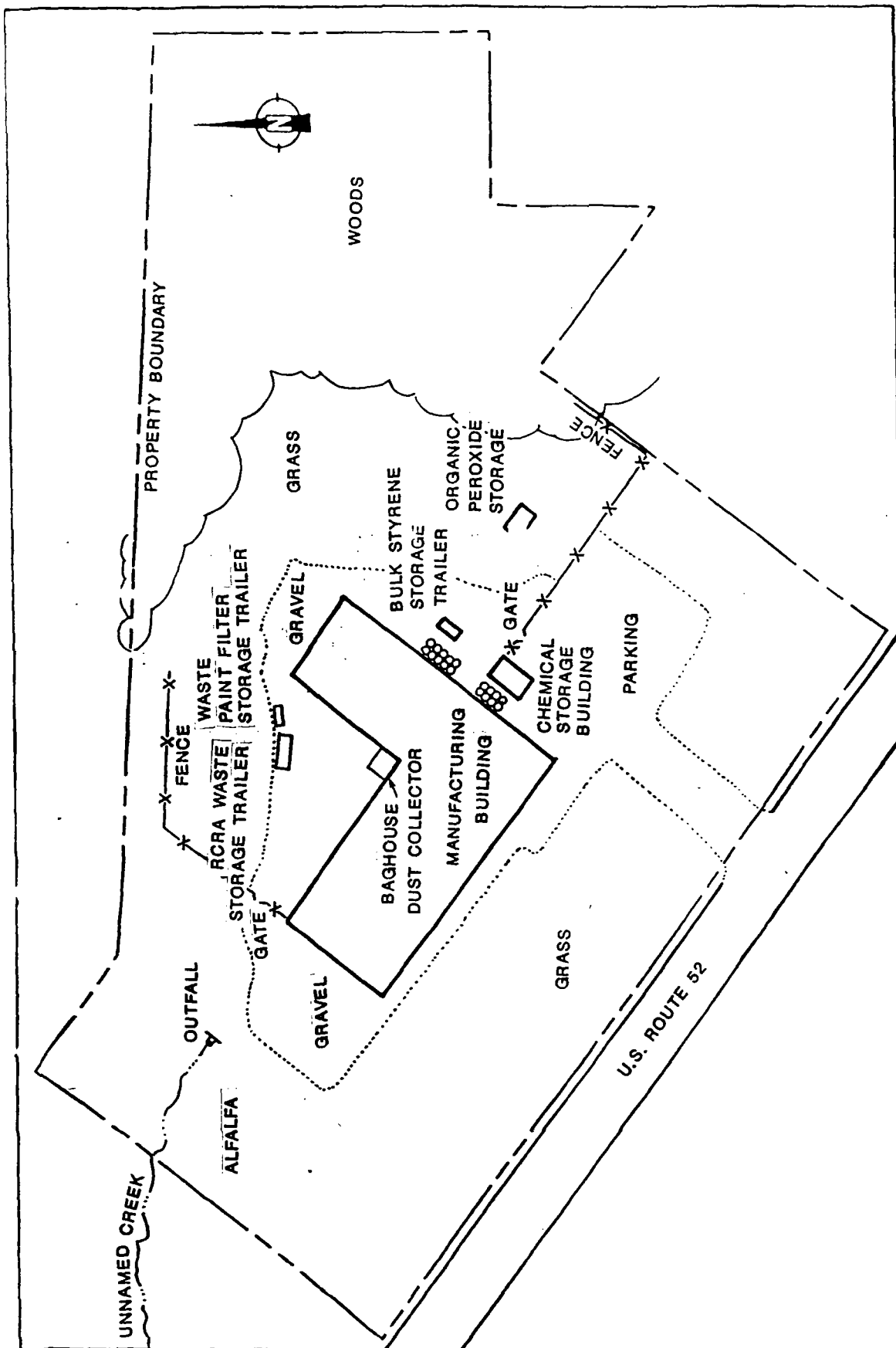


FIGURE 3-1 SITE FEATURES

The site is only partially fenced. One section of fence runs northeast from the northwest corner of the manufacturing building for approximately 200 feet. From that point, the fence extends approximately 200 feet east. A gate is located near the northwest corner of the building. A second fence extends approximately 320 feet southeast from the chemical storage building, and then turns and extends northeast for approximately 100 feet. This section of fence has a gate near the chemical storage building. It is not known whether these gates are kept locked.

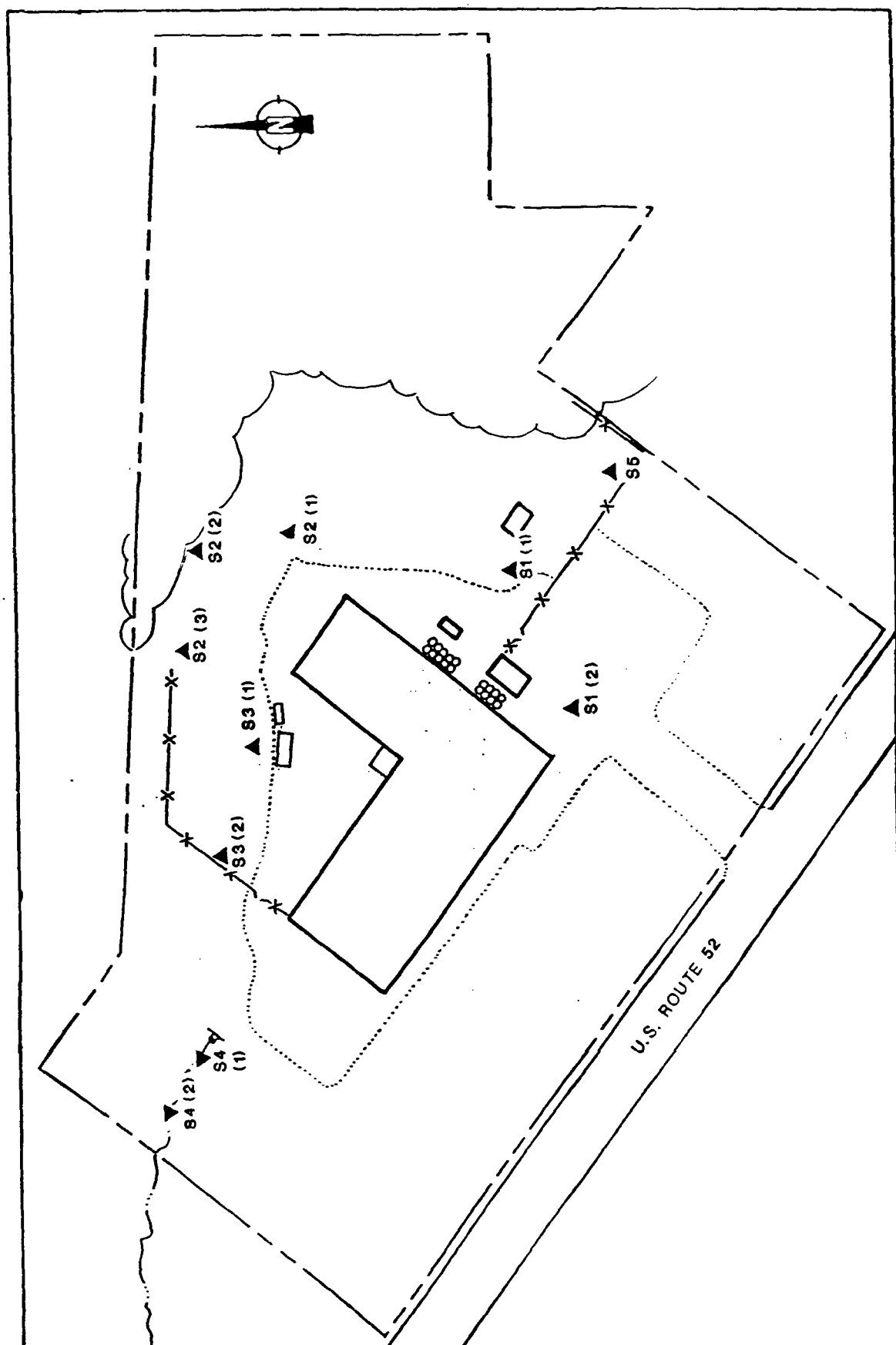
FIT photographs from the SSI of the AFC site are provided in Appendix C.

### 3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine whether U.S. EPA Target Compound List (TCL) compounds or Target Analyte List (TAL) analytes were present at the site. The TCL and TAL are included with corresponding quantitation/detection limits in Appendix D.

On June 26, 1990, FIT collected four soil samples and one sediment sample on-site, including one potential background soil sample. FIT also collected two groundwater samples. A portion of each soil/sediment sample was offered to the site representatives, and was accepted.

Soil/Sediment Sampling Procedures. Soil sample S1 was a composite sample collected from locations near the organic peroxide storage building, and near the chemical storage building where the styrene spill occurred (see Figure 3-2 for soil/sediment sampling locations). The first portion of sample S1 was collected at a depth of 14 inches, and the second portion was collected at a depth of 3 feet. The portion for volatile organic analysis (VOA) was collected at the second location. Soil sample S2 was a composite sample collected from three locations in the grassy area north of the manufacturing building, at locations where stressed vegetation was evident. The first portion was collected at a depth of 2 feet, the second was collected at a depth of 2 feet, and the third at a depth of 20 inches. The VOA portion of the sample was collected from the third location. Soil sample S3 was a composite sample collected from locations on the east and west sides of the septic field



SCALE 0 100 200 300 400 500 FEET

LEGEND  
 ▲ SOIL SAMPLE  
 ▼ SEDIMENT SAMPLE

FIGURE 3-2 ON-SITE SOIL/SEDIMENT SAMPLING LOCATIONS

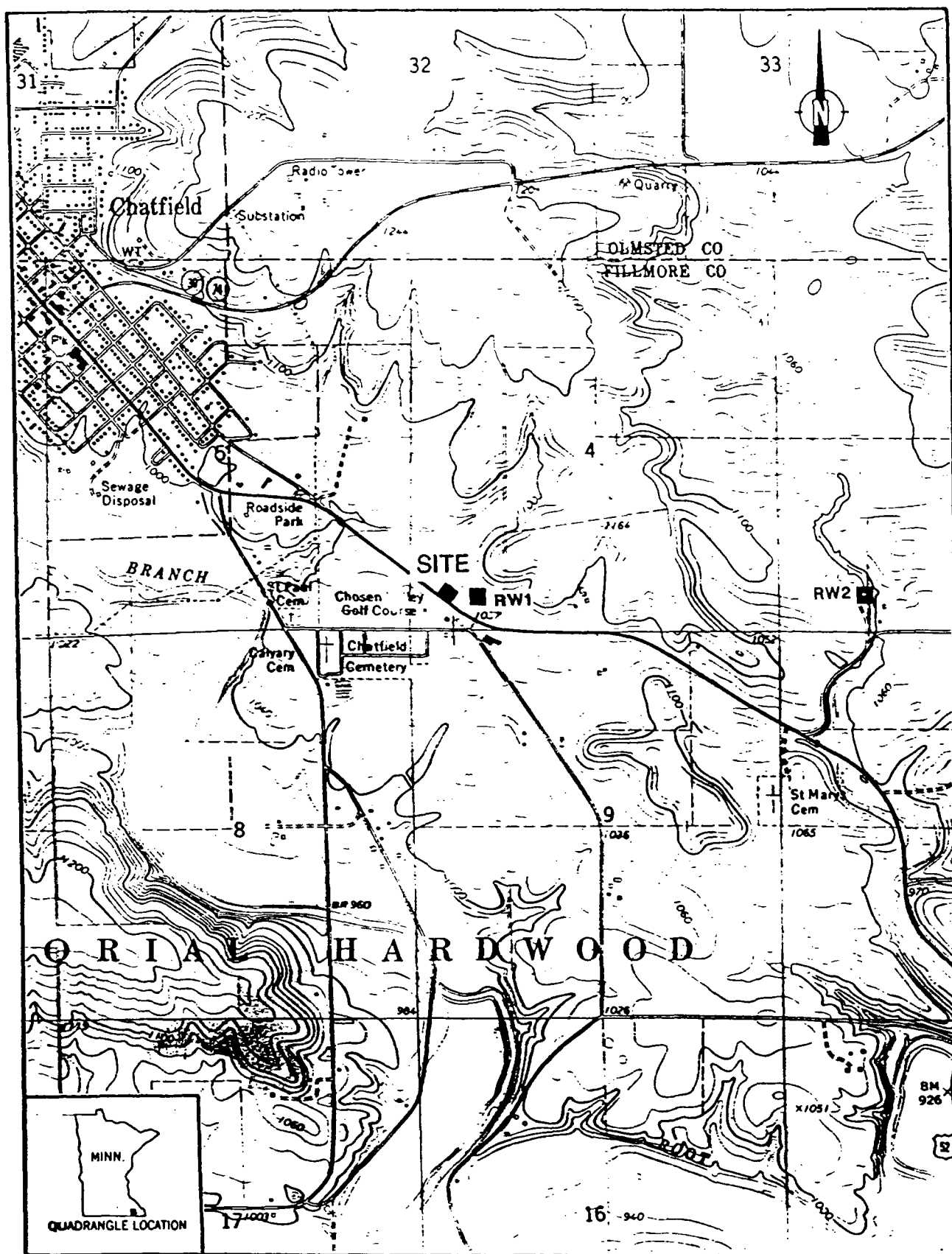
to determine whether wastes had been disposed of through the septic system. The first portion of sample S3 was collected at a depth of 5 feet; the second portion was collected at a depth of 5 feet from a pre-existing hole 2 1/2 feet deep. The VOA portion of the sample was collected from the second location. Sediment sample S4 was a composite sample collected from two locations at the outfall to determine whether TCL compounds and TAL analytes could be migrating off-site via surface water runoff. Both portions were collected from a depth of 0 to 3 inches. The VOA portion of the sample was collected from the first location. Soil sample S5 was a potential background sample collected approximately 100 feet upgradient of the organic peroxide storage building. Sample S5 was collected at a depth of approximately 40 inches.

The deep soil samples were collected using a hand auger or a post-hole digger, while sediment sample S4 was collected using a hand trowel. For the composite samples, a portion of soil was transferred from each sampling location to a stainless steel bowl, mixed, and then transferred to the appropriate sample bottles using a stainless steel spoon or hand trowel. The grab sample S5 was collected in the same manner as the composite samples. The VOA sample portion was collected first and transferred directly into sample bottles (E & E 1987).

Standard E & E decontamination procedures were adhered to during the collection of all soil/sediment samples. The procedures included the scrubbing of all equipment (e.g., spoons, trowels, hand auger, and posthole digger) with a solution of detergent (Alconox) and distilled water, and triple-rinsing the equipment with distilled water before the collection of each sample (E & E 1987). All soil/sediment samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, all soil/sediment samples were analyzed using the U.S. EPA Contract Laboratory Program (CLP).

Groundwater Sampling Procedures. Groundwater samples RW1 and RW2 were collected to determine local groundwater characteristics. Groundwater sampling location RW1 was selected because it is within 1,000 feet of the site, and because it is a municipal well serving the city of Chatfield, Minnesota (see Figure 3-3 for groundwater sampling locations). Groundwater sample RW2 was collected from a residential well



SOURCE: USGS, Chatfield, MN Quadrangle, 7.5 Minute Series, 1974.



FIGURE 3-3 GROUNDWATER SAMPLING LOCATIONS

located approximately 1 mile east of the site (see Table 3-1 for addresses and depths of groundwater wells).

All groundwater samples were obtained from outlets that bypassed water treatment systems and storage tanks. Water was allowed to discharge from the outlets for 15 minutes before samples were collected to ensure that the sample sources had been purged of standing water (E & E 1987). In accordance with U.S. EPA quality assurance/quality control requirements, a duplicate groundwater sample and a field blank sample were collected. The field blank sample was prepared from distilled water. The duplicate sample was collected at location RW1.

As directed by U.S. EPA, all groundwater samples were analyzed using the U.S. EPA CLP and the U.S. EPA Central Regional Laboratory (CRL) of Chicago, Illinois.

Table 3-1

ADDRESSES AND DEPTHS OF GROUNDWATER WELLS

Sample	Well Depth (feet)	Address
RW1 and Duplicate	440*	Chatfield Municipal Well #3 Chatfield, MN 55923
RW2	Unknown	Route 3, Box 182 Chatfield, MN 55923

\* Source: municipal well log.



#### 4. ANALYTICAL RESULTS

This section presents results of the chemical analysis of FIT-collected soil/sediment and groundwater samples for TCL compounds and TAL analytes. All samples were analyzed for volatile organics, semi-volatile organics, pesticides/polychlorinated biphenyls (PCBs), metals, and cyanides. Complete chemical analysis results of FIT-collected soil/sediment and groundwater samples are provided in Tables 4-1 and 4-2.

Quantitation/detection limits used in the analysis of soil/sediment and groundwater samples are provided in Appendix D.

The analytical data for the chemical analysis of soil/sediment and groundwater samples collected for this SSI have been reviewed by U.S. EPA for compliance with terms of CLP, and the review has been approved by U.S. EPA. The analytical data have also been reviewed by FIT for validity and usability. Any additions, deletions, or changes to the data have been incorporated in the chemical analysis results tables presented in this section.

Table 4-1  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED SOIL/SEDIMENT SAMPLES

Sample Collection Information and Parameters		S1	S2	Sample Number		S4	S5
Date		6/26/90	6/26/90	6/26/90	6/26/90	6/26/90	6/26/90
Time		1100	1140	1330	1345	1440	
CLP Organic Traffic Report Number		ELQ64	ELQ65	ELQ66	ELQ67	ELQ68	
CLP Inorganic Traffic Report Number		MELD64	MELD65	MELD66	MELD67	MELD68	
<b>Compound Detected</b>							
(values in $\mu\text{g/kg}$ )							
<b>Volatile Organics</b>							
methylene chloride		--	--	5J	--	--	--
styrene		--	--	--	4J	--	--
<b>Semivolatile Organics</b>							
benzyl alcohol		--	--	--	860	--	--
benzoic acid		--	--	--	12,000JD	--	--
dimethylphthalate		--	--	--	470	--	--
butylbenzylphthalate		--	--	--	16,000D	--	--
bis(2-ethylhexyl)phthalate		--	--	--	6,600	--	--
<b>Analyte Detected</b>							
(values in $\text{mg/kg}$ )							
aluminum		6,560	2,150	6,580	21,200	1,020	
antimony		--	--	--	35.1NJ	--	--
arsenic		6.3	2B+J	7.5	1.5B	1.3B	
barium		62.8	19.7B	90.7	21.1B	14.5B	
beryllium		.9B	--	0.45B	--	--	
calcium		4,900*J	352B*J	1,610*J	3,980*J	248B*J	
chromium		14.9	3.6J	13.3	5.5J	2BJ	
cobalt		6.6B	1.4B	10B	1.9B	1B	
copper		53.4NJ	3.6BNJ	35.1NJ	14.3NJ	2.7BNJ	
iron		21,400	2,750	21,900	3,470	2,130	
lead		13.1NJ	2.2NJ	14.8NJ	7.5NJ	2.5NJ	

Table 4-1 (Cont.)

Sample Collection Information and Parameters	S1	S2	Sample Number		
			S3	S4	S5
magnesium	1,480	329B	951B	593B	149B
manganese	865	67.7	1,680	110	68.2
nickel	16.9	3.6B	32.1	4.5B	2.5B
potassium	529B	165B	739B	206B	165B
selenium	—	—	0.82BNJ	0.79BN+J	0.8BNJ
sodium	62.5BJ	42.5BJ	57.7BJ	62.1BJ	36.9BJ
thallium	0.48B	—	—	—	—
vanadium	26.3	5.1B	25.6	5.7B	3.1B
zinc	24.6	7.3J	63.7	32.5	9.2J

— Not detected.

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.
ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semiquantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semiquantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Table 4-2  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED GROUNDWATER SAMPLES

Sample Collection Information and Parameters	RW1	Duplicate	Sample Number		Blank
			RW2		
Date	6/26/90	6/26/90	6/26/90	6/26/90	6/26/90
Time	1525	1525	1620	1430	1430
CRL Log Number	90FM18S98	90FM18D98	90FM18S99	90FM02R84	90FM02R84
CLP Organic Traffic Report Number	ELQ69	ELQ70	ELQ71	ELQ72	ELQ72
Temperature (°C)	6	6	12	29	29
Specific Conductivity (µmhos/cm)	140	140	240	3	3
pH	7.7	7.7	7.62	5.8	5.8
<u>Compound Detected</u>					
(values in µg/L)					
<u>Volatile Organics</u>					
trichloroethene	--	--	1J	--	--
<u>Pesticides/PCBs</u>					
gamma BHC (Lindane)	--	--	--	0.01	0.01
<u>Analyte Detected</u>					
(values in µg/L)					
barium	42.2	42.9	42.4	--	--
cadmium	--	--	0.31	--	--
calcium	75,300	76,500	89,400	--	--
copper	--	--	263	169	169
lead	--	--	6.4	--	--
magnesium	20,800	21,200	34,700	--	--
potassium	--	--	7,630	--	--
sodium	2,930	2,900	8,270	--	--
zinc	--	--	3,390	--	--
lithium	10.2	10.2	12	--	--
strontium	90.5	91.4	99.1	--	--
-- Not detected.					

Table 4-2 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

## 5. DISCUSSION OF MIGRATION PATHWAYS

### 5.1 INTRODUCTION

This section presents discussions of data and information pertaining to potential migration pathways and targets of TCL compounds and TAL analytes that are possibly attributable to the AFC site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

### 5.2 GROUNDWATER

One TCL compound was detected in groundwater sample RW2. This compound cannot be attributed to the AFC site because it was not detected in on-site soil/sediment samples.

TAL analytes were detected in groundwater samples RW1 and RW2. These analytes cannot be attributed to the AFC site because the same TAL analytes were detected in the background soil sample, and the analytes are not known to be used in any operations conducted by Aligned Fiber.

A potential does exist for TCL compounds and TAL analytes to migrate from the site to groundwater in the vicinity of the site, based on the following information.

- TCL compounds and TAL analytes were detected in on-site soil/sediment samples.
- There is no evidence that the settling ponds had liners.

The potential for TCL compounds and TAL analytes to migrate from the site to groundwater is affected by the geology of the area of the site. The geology of the area of the site is characterized by 3 to 6 feet of unconsolidated overburden, which is underlain by bedrock. The bedrock consists of a thin layer of St. Peter Sandstone, which overlies Prairie du Chien Dolomites and Jordan Sandstone (Sims and Morey 1972). According to the area well logs, depth to groundwater in the area of the site ranges from 55 to 70 feet (see Appendix E for well logs of the area of the site). Both the Prairie du Chien and the Jordan formations are used as sources of drinking water. Since no confining layers exist between these formations, they are considered to form a single aquifer of concern (AOC).

The direction of groundwater flow is assumed to be south, toward the Middle Fork of the Root River, which is located approximately 1 1/2 miles south of the site (Austin 1969). However, since groundwater flow in the AOC is via fractures in the bedrock, the direction of local groundwater flow will be dictated by the orientation of fractures in the bedrock (Sims and Morey 1972).

Wells used for drinking water in the area of the site, including the Chatfield municipal wells, are screened in the Prairie du Chien and Jordan aquifers (see Appendix E). The population within a 3-mile radius of the site potentially affected by the migration of TCL compounds and TAL analytes to groundwater is approximately 1,370 persons. The population that draws water from private wells was calculated by counting houses within a 3-mile radius of the site (and outside the area served by municipal wells) on United States Geological Survey (USGS) topographic maps of the area of the site (USGS 1974, 1974a, 1974b), and multiplying that number by a persons-per-household average of 2.74 for Olmstead and Fillmore counties (U.S. Bureau of the Census 1982). This total was added to the approximately 1,030 persons served by the Chatfield municipal water system (U.S. Bureau of the Census 1990) to obtain the total target population.

### 5.3 SURFACE WATER

No surface water samples were collected during the SSI of the AFC site. The nearest body of surface water is the North Branch of the Root



River, which is located approximately 1/2 mile west of the site. An intermittent creek provides a surface water pathway from the site to the river.

A potential exists for TCL compounds and TAL analytes to migrate from the site to surface water because TCL compounds and TAL analytes were detected in on-site soil/sediment samples and because Aligned Fiber has an outfall that discharges directly into the intermittent creek. Surface water flow in the intermittent stream could eventually reach the Root River, which is used for recreational activities (Kester 1990). The population potentially affected by the migration of TCL compounds and TAL analytes to surface water is not known.

#### 5.4 AIR

A release of TCL compounds or TAL analytes to the air was not documented during the SSI of the AFC site. During the reconnaissance inspection, FIT site-entry instruments (OVA, explosimeter, radiation monitor, and hydrogen cyanide monitor) did not detect levels above background concentrations at the site. In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A potential does not exist for TCL compounds and TAL analytes to migrate from the site via windblown particulates, based on the following information.

- Aligned Fiber uses a dust collection system in its manufacturing process.
- Heavy vegetation covers much of the site, inhibiting wind-blown particles.

#### 5.5 FIRE AND EXPLOSION

According to federal, state, and local file information reviewed FIT and an interview with site representatives, no documentation exists of an incident of fire or explosion at the site. According to FIT observations and site-entry equipment readings, no potential for fire or explosion existed at the site at the time of the SSI.

## 5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, observations made during the SSI, and the interview with the site representatives, no incidents of direct contact with TCL compounds or TAL analytes at the AFC site have been documented.

A low potential exists for persons to come into direct contact with TCL compounds and TAL analytes at the site. This potential is based on the following information.

- TCL compounds and TAL analytes were detected in on-site soil/sediment samples.
- The site is only partially surrounded by fences.

The population within a 1-mile radius of the site potentially affected through direct contact with TCL compounds and TAL analytes at the site is 150 persons. This population was calculated by counting houses within a 1-mile radius of the site on a USGS topographic map (USGS 1974) and multiplying this number by a persons-per-household value of 2.74 (U.S. Bureau of the Census 1982).

## 6. REFERENCES

- Austin, George, 1969, Paleozoic Stratigraphic Nomenclature for Southeastern Minnesota, information circular IC-6, University of Minnesota, Saint Paul, Minnesota.
- E & E, 1987, Quality Assurance Project Plan Region V FIT Conducted Site Inspections, Chicago, Illinois.
- Kester, Harvey, January 31, 1990, Chatfield Fire Chief, telephone conversation, (507) 867-4320, contacted by Cortney Schmidt of E & E.
- Sims, P. K., and G. B. Morey, 1972, editors, Geology of Minnesota: A Centennial Volume, Minnesota Geological Survey, University of Minnesota, Saint Paul, Minnesota.
- Thorson, Dennis, and Allen White, June 25, 1990, Plant Engineer, Aligned Fiber, and Safety Director, MMFG, respectively, interview, conducted by Mike McAteer of E & E.
- U.S. Bureau of the Census, 1982, 1980 Census of Population, Characteristics of the Population, General Population Characteristics, Minnesota, Washington, D.C.
- \_\_\_\_\_, January 31, 1990, telephone conversation, contacted by Cortney Schmidt of E & E.

U.S. EPA, January 31, 1986, Potential Hazardous Waste Site Preliminary Assessment, for the AFC site, U.S. EPA ID: MND062859038, prepared by Shawn Ruotsinoja, MPCA.

\_\_\_\_\_, February 12, 1988, Office of Solid Waste and Emergency Response, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

USGS, 1974, Chatfield, Minnesota Quadrangle, 7.5 Minute Series:  
1:24,000.

\_\_\_\_\_, 1974a, Eyota, Minnesota Quadrangle, 7.5 Minute Series:  
1:24,000.

\_\_\_\_\_, 1974b, Pilot Mound, Minnesota Quadrangle, 7.5 Minute Series:  
1:24,000.

6168:8

**A**

APPENDIX A

SITE 4-MILE RADIUS MAP

# SDMS US EPA Region V

## *Imagery Insert Form*

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APPENDIX B

U.S. EPA FORM 2070-13



# Site Inspection Report



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE **MN** 02 SITE NUMBER **D062859038**

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) **Aligned Fiber Composites, Inc.** 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER **Highway 52 South**  
03 CITY **Chatfield** 04 STATE **MN** 05 ZIP CODE **55923** 06 COUNTY **Fillmore** 07 COUNTY CODE **045** 08 CONG DIST **01**  
09 COORDINATES  
LATITUDE **43° 42' 58.0"** LONGITUDE **92° 09' 54.0"** 10 TYPE OF OWNERSHIP (Check one)  
☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL  
☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION **6/2/90** 02 SITE STATUS ☒ ACTIVE ☐ INACTIVE 03 YEARS OF OPERATION **1975** **1** active **UNKNOWN**  
MONTH DAY YEAR BEGINNING YEAR ENDING YEAR  
04 AGENCY PERFORMING INSPECTION (Check all that apply)  
☐ A. EPA ☒ B. EPA CONTRACTOR **Ecology and Environment** ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR **1**  
☐ E. STATE ☐ F. STATE CONTRACTOR ☐ G. OTHER  
(Name of firm) (Name of firm) (Name of firm)

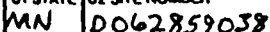
05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
<b>Mike McAteer</b>	<b>Geographer</b>	<b>Ecology and Environment</b>	<b>(312) 663-9415</b>
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
<b>Cortney Schmidt</b>	<b>Water Resources Manager</b>	<b>Ecology and Environment</b>	<b>(312) 663-9415</b>
<b>Ted Nehr Korn</b>	<b>Environmental Engineer</b>	<b>Ecology and Environment</b>	<b>(312) 663-9415</b>
<b>Nathan Russell</b>	<b>Geologist</b>	<b>Ecology and Environment</b>	<b>(312) 663-9415</b>
<b>Reggie Suga</b>	<b>Chemist</b>	<b>Ecology and Environment</b>	<b>(312) 663-9415</b>
			<b>( )</b>

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
<b>Allen White</b>	<b>Safety Director</b>	<b>400 Commonwealth Ave. Box 580, Bristol, VA 24203</b>	<b>(703) 669-1181</b>
<b>Dennis Thorson</b>	<b>Plant Engineer, AFC, Inc</b>	<b>Highway 52 South Chatfield, MN 55923</b>	<b>(507) 867-4031</b>
			<b>( )</b>
			<b>( )</b>
			<b>( )</b>
			<b>( )</b>
			<b>( )</b>

17 ACCESS GAINED BY (Check one) ☒ PERMISSION ☐ WARRANT 18 TIME OF INSPECTION **0815** 19 WEATHER CONDITIONS **mostly sunny, high humidity, ~90°F, winds W to SW, ~10 mph**

IV. INFORMATION AVAILABLE FROM

01 CONTACT **Ron Swenson** 02 OF (Agency/Organization) **Minnesota Pollution Control Agency** 03 TELEPHONE NO. **(612) 297-1793**  
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM **Gregory Youngstrom** 05 AGENCY **U.S. EPA** 06 ORGANIZATION **Ecology and Environment** 07 TELEPHONE NO. **(312) 663-9415** 08 DATE **12/3/90**  
MONTH DAY YEAR



\* FIT file information has complete listing of feedstocks.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE: MN 02 SITE NUMBER: D062857038

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 1370 persons 04 NARRATIVE DESCRIPTION

See narrative subsection 5.2

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

See narrative subsection 5.3

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

See narrative subsection 5.4

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

See narrative subsection 5.5

01 ☒ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 150 persons 04 NARRATIVE DESCRIPTION

See narrative subsection 5.6

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: ~24 (Acres) 04 NARRATIVE DESCRIPTION

See table 4-1

01 ☒ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 1370 persons 04 NARRATIVE DESCRIPTION

See narrative subsection 5.2

01 ☒ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: 140 persons 04 NARRATIVE DESCRIPTION

The site is currently active. State and FIT file information as well as the interview with the site representatives does not indicate any past injuries/exposures on-site. See narrative subsection 5.6

01 ☒ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 589 persons 04 NARRATIVE DESCRIPTION

See narrative subsection 5.6



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D062859038

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

No Stressed flora observed by FIT during SSI 6/26/90

01 ☐ K. DAMAGE TO FAUNA

04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

No Stressed Fauna observed by FIT during inspection 6/26/90.

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None anticipated

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES

(Spills/Runoff/Standing liquids, Leaking drums)

02 ☒ OBSERVED (DATE: Dec, 1986)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

See Subsection 3.3

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

None

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 1589 persons

IV. COMMENTS

None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

- SSI of AFC, Inc. 6/26/90

- FIT and State file information, Region II



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER  
MN DD62859038

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input checked="" type="checkbox"/> A. NPDES	MN 0048801	Dec 21, 1981	unknown	operating at time of SSI
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input checked="" type="checkbox"/> D. RCRA	unknown	unknown	unknown	AFC, Inc. is a RCRA LQG.
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPOC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input checked="" type="checkbox"/> A. INCINERATION N/A	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	2 buildings
<input checked="" type="checkbox"/> C. DRUMS, ABOVE GROUND	unknown		<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)  
☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

See narrative subsections 2.3 and 3.3

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

Site is not completely fenced, however all wastes are in buildings and trailers.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

- SSI of AFC, Inc. 6/26/90

- FIT and State file information, Region II



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN 0062859038

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY  
(Check as applicable)

SURFACE WELL  
COMMUNITY A. ☐ B. ☒  
NON-COMMUNITY C. ☐ D. ☒

02 STATUS

ENDANGERED AFFECTED MONITORED  
A. ☐ B. ☐ C. ☒  
UNKNOWN D. ☐ E. ☐ F. ☐

03 DISTANCE TO SITE

A. 1/5 (mi)  
B. 1/2 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING  
(Other sources available)  
COMMERCIAL, INDUSTRIAL, IRRIGATION  
(No other water sources available)  
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION  
(Limited other sources available)  
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 1370 persons

03 DISTANCE TO NEAREST DRINKING WATER WELL 1/5 (mi)

04 DEPTH TO GROUNDWATER

60 (ft)

05 DIRECTION OF GROUNDWATER FLOW

South/Southwest

06 DEPTH TO AQUIFER  
OF CONCERN

60 (ft)

07 POTENTIAL YIELD  
OF AQUIFER

unknown (gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

See subsection 5.2

10 RECHARGE AREA

☒ YES COMMENTS  
☐ NO

Assumed due to  
precipitation

11 DISCHARGE AREA

☐ YES COMMENTS  
☐ NO

unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION  
DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY  
IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:

North Branch of the Root River

AFFECTED

DISTANCE TO SITE

☐ 1/2 (mi)  
☐ (mi)  
☐ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE  
A. 150  
NO. OF PERSONS

TWO (2) MILES OF SITE  
B. 1219  
NO. OF PERSONS

THREE (3) MILES OF SITE  
C. 1370  
NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

1/4 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

625

04 DISTANCE TO NEAREST OFF-SITE BUILDING

1/8 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

See narrative subsection 2.2





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

MN D062551038

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A.  $10^{-6} - 10^{-8}$  cm/sec ☐ B.  $10^{-4} - 10^{-6}$  cm/sec ☒ C.  $10^{-2} - 10^{-3}$  cm/sec ☐ D. GREATER THAN  $10^{-2}$  cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE  
(Less than  $10^{-6}$  cm/sec)  
☐ B. RELATIVELY IMPERMEABLE  
( $10^{-4} - 10^{-6}$  cm/sec)  
☒ C. RELATIVELY PERMEABLE  
( $10^{-2} - 10^{-4}$  cm/sec)  
☐ D. VERY PERMEABLE  
(Greater than  $10^{-2}$  cm/sec)

03 DEPTH TO BEDROCK

6 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

Unknown (ft)

05 SOIL pH

Unknown

06 NET PRECIPITATION

-2.77 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.5 (in)

08 SLOPE

SITE SLOPE

< 3 %

DIRECTION OF SITE SLOPE

North

TERRAIN AVERAGE SLOPE

< 3 %

09 FLOOD POTENTIAL

Unknown

SITE IS IN \_\_\_\_\_ YEAR FLOODPLAIN

10

N/A

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER

A. None (mi)

B. None (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

None (mi)

ENDANGERED SPECIES: \_\_\_\_\_

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS; NATIONAL/STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

A. Adjacent (mi)

B. 1/4 (mi)

C. Unknown (mi) D. 1/2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Appendix "A"

VII. SOURCES OF INFORMATION (See specific references, e.g., state files, sample analysis, reports)

FIT and State file information, Region IX



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D062859038

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	2	U.S. EPA Central Regional Laboratory	20 Sept 1990
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL/sediment	5	TAL Skinner & Sherman Labs / EMS Laboratories	20 Sept 1990
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
OVA 128	No readings above background
Explosimeter	No readings above background
Radiation mini-alert	No readings above background
O <sub>2</sub> meter	No readings above background
hydrogen cyanide detector	No readings above background

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF Ecology & Environment, Inc. Chicago <small>(Name of organization or individual)</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS E & E Chicago

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Residential well 1: 440 feet deep  
Temp: 6°C  
PH: 7.7  
Conductivity: 140 mmhos

Residential well 2: unknown depth  
Temp: 12°C  
PH: 7.62  
Conductivity: 240 mmhos

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

-SSI of AFC, Inc 6/26/90



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN 0062859038

II. CURRENT OWNER(S)

01 NAME  
Morrison Molded Fiber Glass Co.  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
400 Commonwealth Ave Box 580  
05 CITY  
Bristol  
06 STATE  
VA  
07 ZIP CODE  
24203

PARENT COMPANY (if applicable)

08 NAME  
Shell Polymer & Catalyst Enterprise  
09 D+B NUMBER  
10 STREET ADDRESS (P.O. Box, RFD #, etc.)  
11 SIC CODE  
12 CITY  
Houston  
13 STATE  
TX  
14 ZIP CODE  
77073

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

08 NAME  
09 D+B NUMBER  
10 STREET ADDRESS (P.O. Box, RFD #, etc.)  
11 SIC CODE  
12 CITY  
13 STATE  
14 ZIP CODE

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

08 NAME  
09 D+B NUMBER  
10 STREET ADDRESS (P.O. Box, RFD #, etc.)  
11 SIC CODE  
12 CITY  
13 STATE  
14 ZIP CODE

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

08 NAME  
09 D+B NUMBER  
10 STREET ADDRESS (P.O. Box, RFD #, etc.)  
11 SIC CODE  
12 CITY  
13 STATE  
14 ZIP CODE

III. PREVIOUS OWNER(S) (list most recent first)

01 NAME  
Aligned Fiber Composites, Inc.  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
Highway 52 South  
05 CITY  
Chatfield  
06 STATE  
MN  
07 ZIP CODE  
55923

IV. REALTY OWNER(S) (if applicable; list most recent first)

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

01 NAME  
Clarence Perkins  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
Chatfield  
06 STATE  
MN  
07 ZIP CODE  
55923

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

01 NAME  
02 D+B NUMBER  
03 STREET ADDRESS (P.O. Box, RFD #, etc.)  
04 SIC CODE  
05 CITY  
06 STATE  
07 ZIP CODE

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reporting)

SSI of AFC, Inc 6/26/90



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER  
MN D062859038

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (if applicable)			
01 NAME <i>Aligned Fiber Composites, Inc.</i>		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) <i>Highway 52 South</i>		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY <i>Chatfield</i>		06 STATE <i>MN</i>	07 ZIP CODE <i>55923</i>	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION <i>1975 to present</i>		09 NAME OF OWNER <i>Morrison Molded Fiber-Glass co.</i>					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of AFC, Inc. 6/26/90



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D062859038

II. ON-SITE GENERATOR

01 NAME Same as Operator	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE 07 ZIP CODE	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME Hydrite Chemical Co.	02 D+B NUMBER	01 NAME Chemical Waste Management	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME Safety Klean Corp.	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI interview of AFC, Inc. 6/26/90



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D062859038

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input checked="" type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION See narrative subsection 2.3	02 DATE October, 1988	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DRAIN/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN 0062859038

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☒ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE 1998

03 AGENCY

See Narrative Subsection 2.3

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE

03 AGENCY

N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE

03 AGENCY

None

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

FIT and State file information, Region IV



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MN	D062859038

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

See narrative subsection 2.3

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of AFC, Inc 6/26/90
- FIT and state file information, Region II



**C**

**APPENDIX C**

**FIT SITE PHOTOGRAPHS**

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 1 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMN0225SB

DATE: 6/26/90

TIME: 0907

DIRECTION OF  
PHOTOGRAPH:

SE

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA

DESCRIPTION:

Trailer with Drummed Non hazardous solid waste



DATE: 6/26/90

TIME: 910

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION:

Finished product of AFC, Inc's manufacturing

Process





## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 2 OF 20

U.S. EPA ID: MND062859038TDD: F05-8910-007PAN: FMW0225SBDATE: 6/26/90TIME: 0910DIRECTION OF  
PHOTOGRAPH:SouthWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID

(if applicable):

NADESCRIPTION: Hardened resin and Resin splitterDATE: 6/26/90TIME: 0915DIRECTION OF  
PHOTOGRAPH:NWWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID

(if applicable):

NADESCRIPTION: Bulk styrene storage trailer



## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 3 OF 20

U.S. EPA ID: MND062859038TDD: F05-8910-007PAN: FMN0225SBDATE: 6/26/90TIME: 0915DIRECTION OF  
PHOTOGRAPH:SWWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):NADESCRIPTION: Chemical storage trailer on left, scrap drums on rightDATE: 6/26/90TIME: 0917DIRECTION OF  
PHOTOGRAPH:NWWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):NADESCRIPTION: Empty chemical drums used for future storage



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 4 OF 20

U.S. EPA ID: MND062859038

TDD: FD5-8910-007

PAN: FMN022558



DATE: 6/26/90 TIME: 0926 DIRECTION OF PHOTOGRAPH: west PHOTOGRAPHED BY: M. McAttee

WEATHER CONDITIONS: @90°F, Sunny, wind wsw ~10mph SAMPLE ID (if applicable): \_\_\_\_\_

DESCRIPTION: Panoramic view of back of plant, Note Baghouse dust collector  
by the inside corner of plant.



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc.

PAGE 5 OF 20

U.S. EPA ID: MND062859038

TDD: FOS-8910-007

PAN: FMN0225513

DATE: 6/26/90

TIME: 0937

DIRECTION OF  
PHOTOGRAPH:

SE

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION: RCRA Hazardous waste trailer and paint filter  
waste trailer

DATE: 6/26/90

TIME: 0941

DIRECTION OF  
PHOTOGRAPH:

South

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION: Drums to collect spills inside the RCRA  
Hazardous waste trailer.



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites

PAGE 6 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FmN02255B

DATE: 6/26/90

TIME: 0932

DIRECTION OF  
PHOTOGRAPH:

NW

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10 mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION: Trailer for Waste paint filter storage

DATE: 6/26/90

TIME: 0921

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10 mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION: East side of styrene storage trailer (open)



## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, IncPAGE 7 OF 20U.S. EPA ID: MND062859038TDD: F05-8910-007PAN: FMN0225SBDATE: 6/26/90TIME: 0945DIRECTION OF  
PHOTOGRAPH:SouthWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):NADESCRIPTION: Manhole over water line carrying non-contact  
cooling water.DATE: 6/26/90TIME: 0949DIRECTION OF  
PHOTOGRAPH:SouthWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):NADESCRIPTION: NPDES Out fall for non contact cooling water  
into unnamed creek



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 8 OF 20

U.S. EPA ID: MN0062859038 TDD: F05-8910-007

PAN: FMN022550

DATE: 6/26/90

TIME: 1005

DIRECTION OF  
PHOTOGRAPH:

South

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION:

Organic peroxide storage Area

DATE: 6/26/90

TIME: 0940

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, Sunny

Wind W-SW, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

NA



DESCRIPTION:

Septic Field in back of Facility; Alfalfa field  
beyond the fence



## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, IncPAGE 9 OF 20U.S. EPA ID: MND062859038TDD: F05-8910-007PAN: FMW0225SBDATE: 6/26/90TIME: 1100DIRECTION OF  
PHOTOGRAPH:SEWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):S1 (composite)

DESCRIPTION:

Close up of S1 Hole #1DATE: 6/26/90TIME: 1100DIRECTION OF  
PHOTOGRAPH:SEWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):S1 (composite)

DESCRIPTION:

Perspective of S1 Hole #1



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 10 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMN022552

DATE: 6/26/90

TIME: 1100

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

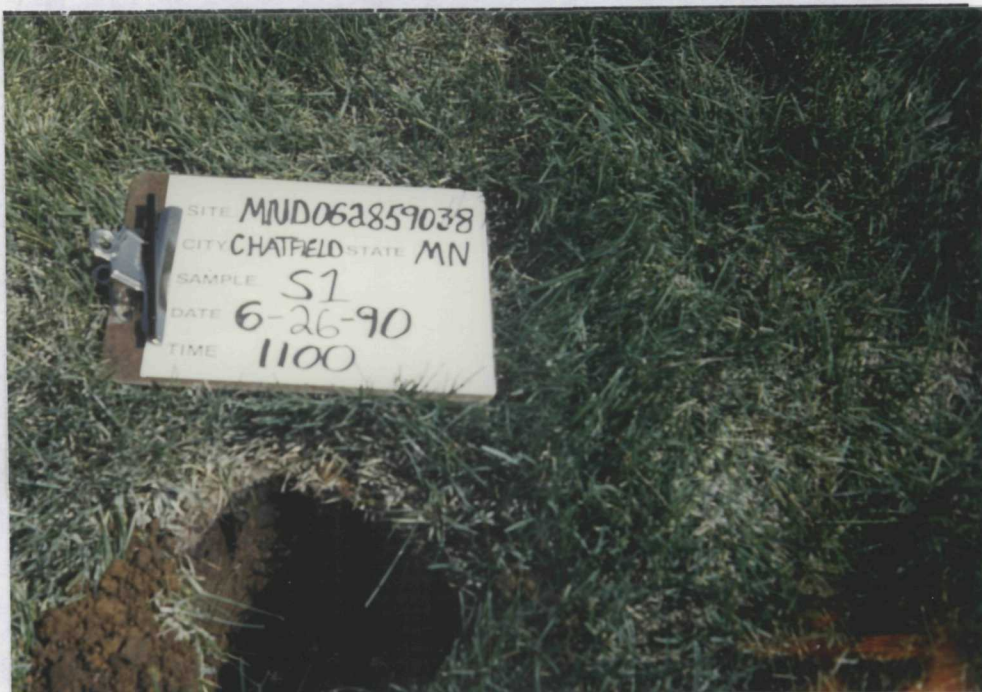
PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S1 (composite)

DESCRIPTION: closeup of S1 hole #2



DATE: 6/26/90

TIME: 1100

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S1 (composite)

DESCRIPTION: Perspective of S1 hole #2





## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, IncPAGE 11 OF 20U.S. EPA ID: MND062859038TDD: F05-8910-007PAN: FMN0225SBDATE: 6/26/90TIME: 1140DIRECTION OF  
PHOTOGRAPH:WestWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):S2 (composite)

DESCRIPTION:

close up of S2 Hole #1DATE: 6/26/90TIME: 1140DIRECTION OF  
PHOTOGRAPH:WestWEATHER  
CONDITIONS:@ 90°F, Sunnywind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteerSAMPLE ID  
(if applicable):S2 (composite)

DESCRIPTION:

Perspective of S2 Hole #1



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 12 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMN0225SB

DATE: 6/26/90

TIME: 1140

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S 2 (composite)

DESCRIPTION:

Close up of S2 Hole #2



DATE: 6/26/90

TIME: 1140

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S 2 (composite)

DESCRIPTION:

Perspective of S2 Hole #2





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 13 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMN0225SB

DATE: 6/26/90

TIME: 1140

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S2 (composite)

DESCRIPTION:

close up of S2 Hole #3



DATE: 6/26/90

TIME: 1140

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S2 (composite)

DESCRIPTION:

Perspective of S2 Hole #3





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 14 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMN0225SB

DATE: 6/26/90

TIME: 1330

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

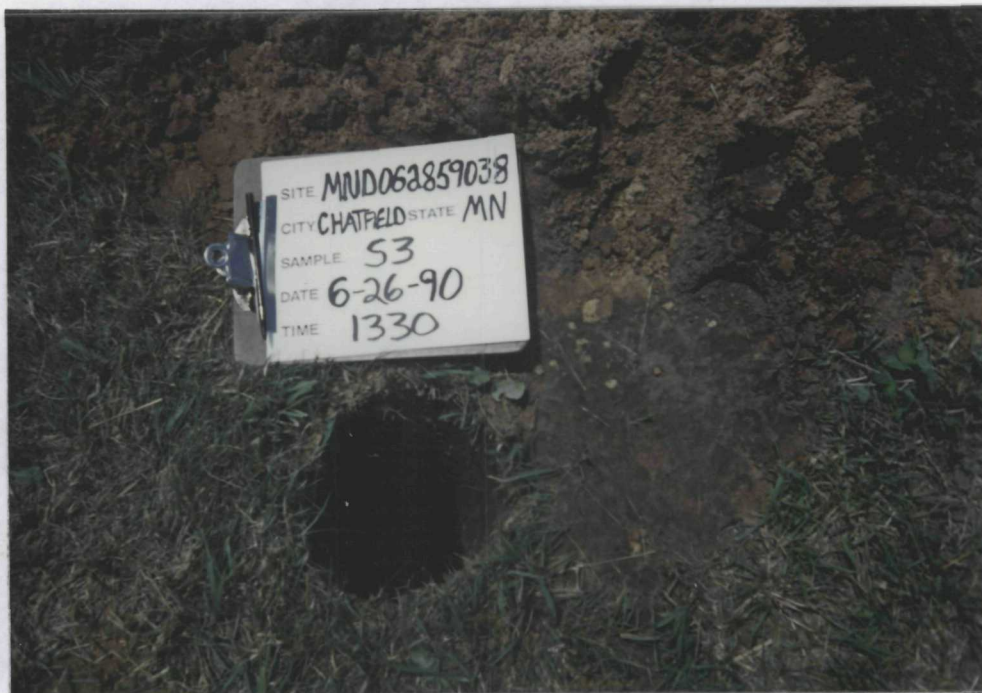
M. McAteer

SAMPLE ID  
(if applicable):

53 (composite)

DESCRIPTION:

Closeup of 53 Hole #1



DATE: 6/26/90

TIME: 1330

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

53 (composite)

DESCRIPTION:

Perspective of 53 Hole #1





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc

PAGE 15 OF 20

U.S. EPA ID: MND062859038

TDD: F05-8910-007

PAN: FMW0225SB

DATE: 6/26/90

TIME: 1330

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S3 (composite)



DESCRIPTION: Close up of S3 hole #2

DATE: 6/26/90

TIME: 1330

DIRECTION OF  
PHOTOGRAPH:

West

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

S3 (composite)



DESCRIPTION: Perspective of S3 hole #2



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber composites, Inc.

PAGE 16 OF 20

U.S. EPA ID: MND062859038 TDD: F05-8910-007

PAN: FMN022550

DATE: 6/26/90

TIME: 1345

DIRECTION OF  
PHOTOGRAPH:  
South

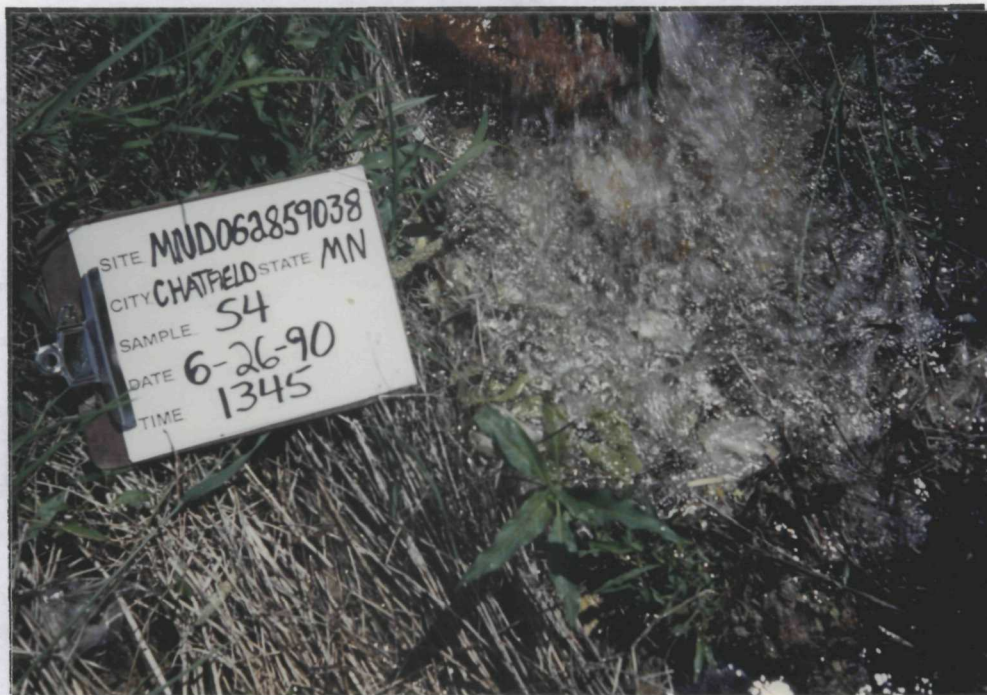
WEATHER  
CONDITIONS:  
@ 90°F, Sunny

wind W-SW, ~10mph

PHOTOGRAPHED BY:  
M. McAteer

SAMPLE ID  
(if applicable):  
S4 (composite)

DESCRIPTION: close up of S4 Hole #1



DATE: 6/26/90

TIME: 1345

DIRECTION OF  
PHOTOGRAPH:  
South

WEATHER  
CONDITIONS:  
@ 90°F, Sunny

wind W-SW, ~10mph

PHOTOGRAPHED BY:  
M. McAteer

SAMPLE ID  
(if applicable):  
S4 (composite)

DESCRIPTION: Perspective of S4 Hole #1





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Filter Composites

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U.S. EPA ID: MND062859038 TDD: F05-8910-007

PAN: FMN022558

DATE: 6/26/90

TIME: 1345

DIRECTION OF  
PHOTOGRAPH:

South

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, 20mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

54 (composite)

DESCRIPTION:

Close up of 54 Hole # 2



DATE: 6/26/90

TIME: 1345

DIRECTION OF  
PHOTOGRAPH:

South

WEATHER  
CONDITIONS:

@ 90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

54 (composite)

DESCRIPTION:

Perspective of 54 Hole # 2





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc.

PAGE 18 OF 20

U.S. EPA ID: MND062859038 TDD: F05-8910-007

PAN: FMND2255B

DATE: 6/26/90

TIME: 1440

DIRECTION OF  
PHOTOGRAPH:

NE

WEATHER  
CONDITIONS:

@90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

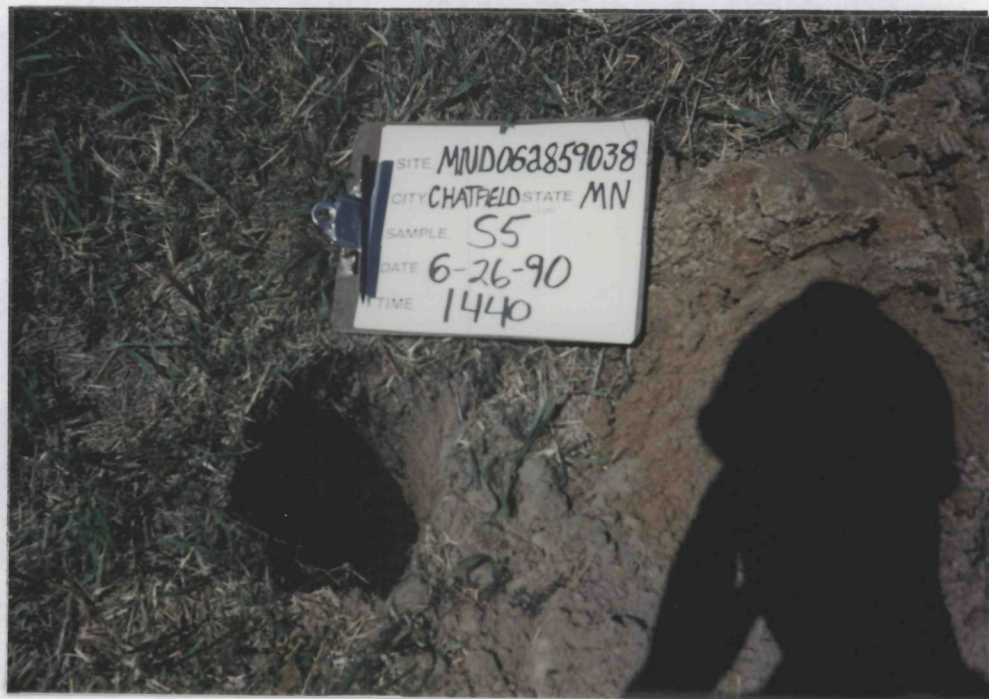
M. McAteer

SAMPLE ID  
(if applicable):

55

DESCRIPTION:

close up of 55 location



DATE: 6/26/90

TIME: 1440

DIRECTION OF  
PHOTOGRAPH:

NE

WEATHER  
CONDITIONS:

@90°F, Sunny

wind w-sw, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

55

DESCRIPTION:

Perspective of 55 location





FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc.

PAGE 19 OF 20

U.S. EPA ID: MND062859038 TDD: F05-8910-007

PAN: FMN022558

DATE: 6/26/90

TIME: 1525

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, sunny

Wind w+sw, ~10 mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

RW1



DESCRIPTION: Close up of RW1

DATE: 6/26/90

TIME: 1525

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, sunny

Wind w+sw, ~10 mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

RW1



DESCRIPTION: Building from which RW1 was collected



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Aligned Fiber Composites, Inc.

PAGE 20 OF 20

U.S. EPA ID: MND062859038 TDD: 705-8910-007

PAN: FMND225SB

DATE: 6/26/90

TIME: 1620

DIRECTION OF  
PHOTOGRAPH:

East

WEATHER  
CONDITIONS:

@ 90°F, sunny

wind w-s-w, ~10mph

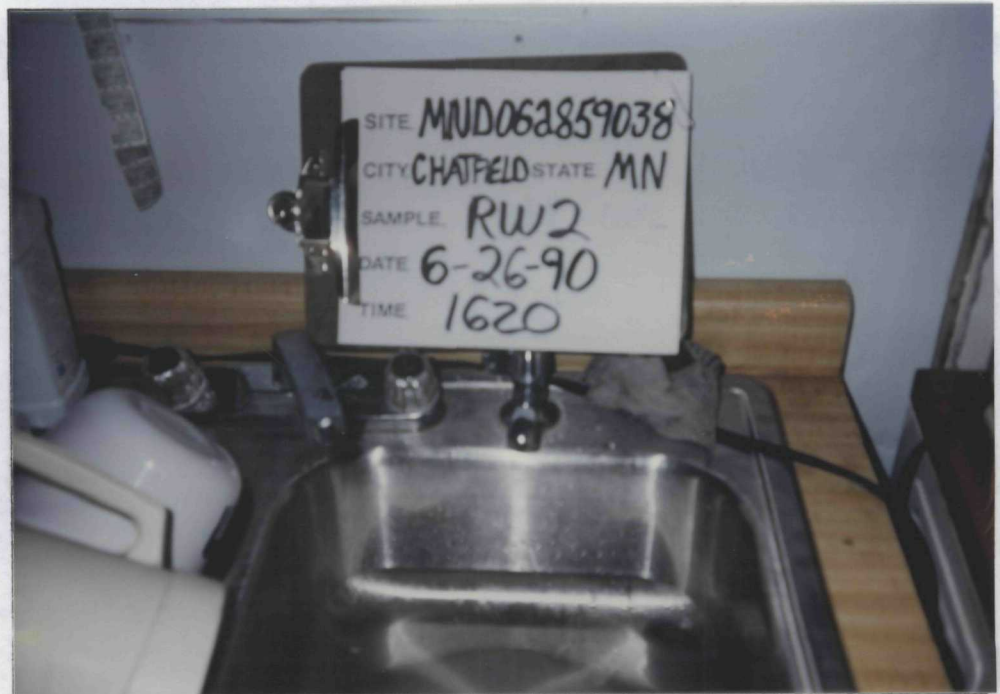
PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

RW2

DESCRIPTION: Close up of RW2



DATE: 6/26/90

TIME: 1620

DIRECTION OF  
PHOTOGRAPH:

North

WEATHER  
CONDITIONS:

@ 90°F sunny

wind w-s-w, ~10mph

PHOTOGRAPHED BY:

M. McAteer

SAMPLE ID  
(if applicable):

RW2

DESCRIPTION: House from which RW2 was collected



**D**

APPENDIX D

U.S. EPA TARGET COMPOUND LIST AND  
TARGET ANALYTE LIST  
QUANTITATION/DETECTION LIMITS



**ADDENDUM A**

**ROUTINE ANALYTICAL SERVICES  
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS**

Contract Laboratory Program  
Target Compound List  
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Toluene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Table A  
Contract Laboratory Program  
Target Compound List  
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Table A (Cont.)

CONTRACT LABORATORY PROGRAM  
 TARGET ANALYTE LIST (TAL)  
 INORGANIC DETECTION LIMITS

Compound	Procedure	Detection Limits	
		Water ( $\mu\text{g/L}$ )	Soil Sediment Sludge (mg/kg)
aluminum	ICP	200	40
antimony	furnace	60	2.4
arsenic	furnace	10	2
barium	ICP	200	40
beryllium	ICP	5	1
cadmium	ICP	5	1
calcium	ICP	5,000	1,000
chromium	ICP	10	2
cobalt	ICP	50	10
copper	ICP	25	5
iron	ICP	100	20
lead	furnace	5	1
magnesium	ICP	5,000	1,000
manganese	ICP	15	3
mercury	cold vapor	0.2	0.008
nickel	ICP	40	8
potassium	ICP	5,000	1,000
selenium	furnace	5	1
silver	ICP	10	2
sodium	ICP	5,000	1,000
thallium	furnace	10	2
tin	ICP	40	8
vanadium	ICP	50	10
zinc	ICP	20	4
cyanide	color	10	2

3767:1

**ADDENDUM B**  
**CENTRAL REGIONAL LABORATORY**  
**DETECTION LIMITS**

TABLE B  
CENTRAL REGIONAL LABORATORY  
VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-dichloroethane	75-34-3	1.5
1,2-dichloroethane	107-06-2	1.5
1,1-dichloroethene	75-35-4	1.5
Total-1,2-dichloroethene	540-59-0	1.5
1,2-dichloropropane	78-87-5	1.5
cis-1,3-dichloropropene	10061-01-5	2
trans-1,3-dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride*	75-09-2	1
1,1,2,2-tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene*	108-88-3	1.5
1,1,1-trichloroethane	71-55-6	1.5
1,1,2-trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone*	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-Pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-xylene	108-38-3	2
o-xylene**	95-47-6	
p-xylene**	106-42-3	2.5**
Total Xylene	1330-02-7	

\* Common Laboratory Solvents.

Blank Limit is 5X Method Detection Limit.

( ) Values in parentheses are estimates.

Actual values are being determined at this time.

\*\* The o-xylene and p-xylene are reported as a total of the two.



TABLE B (cont.)  
CRL  
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
Aniline	62-53-3	1.5 ug/L	3 ug/L
Bis(2-chloroethyl)ether	111-44-4	1.5	3
Phenol	108-95-2	2	4
2-Chlorophenol	95-57-8	2	4
1,3-Dichlorobenzene	541-73-1	2	4
1,4-Dichlorobenzene	106-46-7	2	4
1,2-Dichlorobenzene	95-50-1	2.5	5
Benzyl alcohol	100-51-6	2	4
Bis(2-chloroisopropyl) ether	39638-32-9	2.5	5
2-Methylphenol	95-48-7	1	2
Hexachloroethane	67-72-1	2	4
N-nitrosodipropylamine	621-64-7	1.5	3
Nitrobenzene	98-95-3	2.5	5
4-Methylphenol	106-44-5	1	2
Isophorone	78-59-1	2.5	5
2-Nitrophenol	88-75-5	2	4
2,4-Dimethylphenol	105-67-9	2	4
Bis(2-chloroethoxy)methane	111-91-1	2.5	5
2,4-Dichlorophenol	120-83-2	2	4
1,2,4-Trichlorobenzene	120-82-1	2	4
Naphthalene	91-20-3	2	4
4-Chloroaniline	106-47-8	2	4
Hexachlorobutadiene	87-68-3	2.5	5
Benzoic acid	65-85-0	(30)	(60)
2-Methylnapthalene	91-57-6	2	4
4-Chloro-3-methylphenol	59-50-7	1.5	3
Hexachlorocyclopentadiene	77-47-4	2	4
2,4,6-Trichlorophenol	88-06-2	1.5	3
2,4,5-Trichlorophenol	95-95-4	1.5	3
2-Chloronapthalene	91-58-7	1.5	3
Acenaphthylene	208-96-8	1.5	3
Dimethyl phthalate	131-11-3	1.5	3
2,6-Dinitrotoluene	606-20-2	1	2
Acenaphthene	83-32-9	1.5	3
3-Nitroaniline	99-09-2	2.5	5
Dibenzofuran	132-64-9	1	2
2,4-Dinitrophenol	51-28-5	(15)	(30)
2,4-Dinitrotoluene	121-14-2	1	2
cont.			

TABLE B (Cont.)  
CRL  
SEMI-VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK (a) LIMIT
Fluorene	86-73-7	1 ug/L	2 ug/L
4-Nitrophenol	100-02-7	1.5	3
4-Chlorophenyl phenyl ether	7005-72-3	1	2
Diethylphthalate	84-66-2	1	2
4,6-dinitro-2-methylphenol	534-52-1	(15)	(30)
1,2-Diphenylhydrazine	122-66-7	1	2
n-Nitrosodiphenylamine *	86-30-6		
Diphenylamine *	122-39-4	1.5	3
4-Nitroaniline	100-01-6	3	6
4-Bromophenyl-phenylether	101-55-3	1.5	3
Hexachlorobenzene	118-74-1	1.5	3
Pentachlorophenol	87-86-5	2	4
Phenanthrene	85-01-8	1	2
Anthracene	120-12-7	2.5	5
Di-n-butylphthalate	84-74-2	2	4
Fluoranthene	206-44-0	1.5	3
Pyrene	129-00-0	1.5	3
Butylbenzylphthalate	85-68-7	3.5	7
Chrysene **	218-01-9		
Benzo(a)anthracene **	56-55-3	1.5	3
bis(2-Ethylhexyl)phthalate	117-81-7	1	2
Di-n-octyl phthalate	117-84-0	1.5	3
Benzo(b)fluoranthene ***	205-99-2		
Benzo(k)fluoranthene ***	207-08-9	1.5	3
Benzo(a)pyrene	50-32-8	2	4
Indeno(1,2,3-cd)pyrene	193-39-5	3.5	7
Dibenzo(a,h)anthracene	53-70-3	2.5	5
Benzo(g,h,i)perylene	191-24-2	4	8
2-Nitroaniline	88-74-4	1	2

\* These two parameters are reported as a total.

\*\* These two parameters are reported as a total.

\*\*\* These two parameters are reported as a total.

(a) If the blank limit is exceeded, the sample is reextracted and rerun.

( ) Values in parentheses are estimates.

The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)  
CRL  
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gamma BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-8	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin aldehyde	7421-93-4	(0.030)
Endrin ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.  
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)  
CRL  
INORGANIC DETECTION LIMITS

COMPOUND	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
Aluminum	ICP	100	80 to 1,000,000	ug/L
Antimony	Furnace	2	2 to 30	ug/L
Arsenic	Furnace	2	2 to 30	ug/L
Barium	ICP	50	6 to 20,000	ug/L
Beryllium	ICP	5	1 to 20,000	ug/L
Boron	ICP	80	80 to 20,000	ug/L
Cadmium	ICP	10	10 to 20,000	ug/L
Cadmium	Furnace	0.2	0.2 to 2	ug/L
calcium	ICP	1000	0.5 to 1,000	mg/L
Chromium	ICP	10	8 to 20,000	ug/L
Cobalt	ICP	10	6 to 20,000	ug/L
Copper	ICP	10	6 to 20,000	ug/L
iron	ICP	100	80 to 1,000,000	ug/L
Lead	Furnace	2	2 to 30	ug/L
Lead	ICP	70	70 to 20,000	ug/L
Lithium	ICP	10	10 to 20,000	ug/L
Magnesium	ICP	1000	0.1 to 200	mg/L
Maganese	ICP	10	5 to 20,000	ug/L
Mercury	Cold vapor	0.2	0.1 to 2	ug/L
Molybdenum	ICP	15	15 to 20,000	ug/L
Nickel	ICP	20	15 to 20,000	ug/L
Potassium	ICP	2000	5 to 1,000	mg/L
Selenium	Furnace	2	2 to 30	ug/L
Silver	ICP	5	6 to 10,000	ug/L
Sodium	ICP	1000	1 to 1,000	mg/L
Strontium	ICP	10	10 to 20,000	ug/L
Sulfide	Titration	1	< 1	mg/L
Sulfide	Color	0.05	< 1	mg/L
Thallium	Furnace	2	2 to 30	ug/L
Titanium	ICP	25	25 to 20,000	ug/L
Tin	ICP	40	40 to 20,000	ug/L
Vanadium	ICP	10	5 to 20,000	ug/L
Yttrium	ICP	5	5 to 20,000	ug/L
Zinc	ICP	20	40 to 1,000,000	ug/L
Cyanide	AA	5.0	8 to 200	ug/L

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See Inorganic Routine Analytical Services for related CAS #.



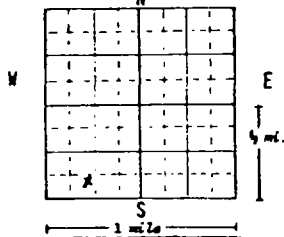
## APPENDIX E

### WELL LOGS OF THE AREA OF THE SITE

M.G.S # 1127

1. LOCATION OF WELL	County Name	Fraction	Section Number	Township Number	Range Number
	Fillmore			104	11
				N. or S.	E. or W.
Distance and Direction from Road Intersections or Street Address and City of Well Location					

Show exact location of well in section grid with "X." Sketch map of well location.

ASK AT MUNIC.  
FOR LOCATION  
S. ON HWY 52  
1 Miles.

3. PROPERTY OWNER'S NAME	City of Chatfield #3
Address	BILL MAHAN WATER SUP.
4. WELL DEPTH (completed)	440 ft.
Date of Completion	2-4-76 to 4-3-76

1 <input type="checkbox"/> Cable tool	4 <input type="checkbox"/> Reverse	7 <input type="checkbox"/> Driven	10 <input type="checkbox"/> Aug
2 <input type="checkbox"/> Hollow rod	5 <input type="checkbox"/> Air	8 <input type="checkbox"/> Bored	11 <input type="checkbox"/>
3 <input type="checkbox"/> Rotary	6 <input type="checkbox"/> Jetted	9 <input type="checkbox"/> Power Auger	

6. USE	4 <input type="checkbox"/> Public Supply	7 <input type="checkbox"/> Industry
1 <input type="checkbox"/> Domestic	5 <input type="checkbox"/> Air Conditioning	8 <input type="checkbox"/> Commercial
2 <input type="checkbox"/> Irrigation		
3 <input type="checkbox"/> Test Well		

7. CASING	HEIGHT: Above/Below
Threaded <input type="checkbox"/> 1	Surface _____ ft.
Black <input type="checkbox"/> 2	Weight _____ lbs./ft.
in. to _____ ft. depth	
in. to _____ ft. depth	
in. to _____ ft. depth	Drive Shoe: Yes _____ No _____

8. SCREEN	Or open hole
Make _____	From _____ ft. to _____ ft.
Type _____	Dia. _____
Slot/Gauge _____	Length _____
Set between _____ ft. and _____ ft.	FITTINGS _____
_____ ft. and _____ ft.	
_____ ft. and _____ ft.	

9. STATIC WATER LEVEL	ft. <input type="checkbox"/> below <input type="checkbox"/> above	Date Measured _____
	land surface	

10. PUMPING LEVEL (below land surface)	ft. after _____ hrs. pumping _____ g.p.m.
	ft. after _____ hrs. pumping _____ g.p.m.

11. WELL HEAD COMPLETION	1 <input type="checkbox"/> Pitless adapter	2 <input type="checkbox"/> Basement offset	3 <input type="checkbox"/> At least 12" above grade
--------------------------	--	--	---

12. Well grouted?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cu. Yds. <del>30</del> 4 1/2	
1 <input checked="" type="checkbox"/> Best cement	2 <input type="checkbox"/> Bentonite	3 <input type="checkbox"/>
Depth: from _____ ft. to _____ ft.		
from _____ ft. to _____ ft.		

13. Nearest source of possible contamination	T/718 feet	direction _____	type _____
Well disinfected upon completion?	Yes <input type="checkbox"/> No <input type="checkbox"/>		

14. PUMP	Date installed _____	<input checked="" type="checkbox"/> Not installed
Manufacturer's Name _____		
Model Number _____	HP _____	Volts _____
Length of drop pipe _____	ft. capacity _____	g.p.m. _____
Material of drop pipe _____		
Type: 1 <input type="checkbox"/> Submersible	3 <input type="checkbox"/> U.S. Turbine	5 <input type="checkbox"/> Reciprocating
2 <input type="checkbox"/> Jet	4 <input type="checkbox"/> Centrifugal	6 <input type="checkbox"/>

16. WATER WELL CONTRACTOR'S CERTIFICATION	This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
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Thain Well Co., Inc. 5307

Address 7023 N. Hwy. 61 Rochester, Minn.

Signed \_\_\_\_\_ Authorized Representative

H. Holst/Roddy Wuehler/Dennis Thain

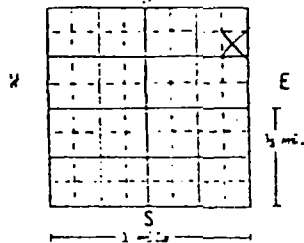
CODED

Cased to 269'

1. TITLE PAGE 1 2. SECTION 8 3. COUNTY 104 4. TOWNSHIP 11

Reference and Direction from Road Intersection or Street Address and City or Town Location

Show exact location of well in section grid with "X" Sketch map of well location.



2. FORMATION LOG	COLOR	THICKNESS OF FORMATION	FROM	TO
OLD HOLE			0	75
SHAKOPEE	T/95E		75	110
ROOT VALLEY (POOR)			110	126
ONECTA			126	152
104-11-8 aac bbd				
ELEV. 1030 ± 10				
SOUTH				
LOCATED BY:				
1	<input type="checkbox"/>	Address Verification		
2	<input type="checkbox"/>	Name on Mailbox		
3	<input type="checkbox"/>	Local OGK		
4	<input type="checkbox"/>	Plot Book		
5	<input checked="" type="checkbox"/>	Info. From Owner		
6	<input type="checkbox"/>	Info. From Neighbor		
7	<input type="checkbox"/>	Other		
	<input type="checkbox"/>	Can't Locate State Hwy		

17. REMARKS, ELEVATION, SOURCE OF DATA, etc.

ART SWENSON  
CHATFIELD  
WELL LOG 2

4. WELL DEPTH (Completed) 152 ft. Date of Completion 5-22-64

5. ☐ Cable tool ☐ Reverse ☐ Driven ☐ Dug  
☐ Hollow rod ☐ Air ☐ Bored ☐   
☐ Rotary ☐ Jetted ☐ Power Auger

6. USE ☒ Domestic ☐ Public Supply ☐ Industry  
☐ Irrigation ☐ Air Conditioning ☐ Commercial  
☐ Test Well ☐

7. CASING DIAM. Threaded ☐ Welded ☐  
4 Black ☐ Galv. ☐  
12. to 12.8 ft. depth  
12. to ft. depth  
12. to ft. depth  
Drive Shoe? Yes ☒ No ☐

8. SCREEN Or open hole  
Make from 128 ft. to 152 ft.  
Type Dia.  
Slot/Gauge Length  
Set between ft. and ft.  
ft. and ft.  
ft. and ft.

9. STATIC WATER LEVEL 66 ft. ☐ below ☐ above land surface Date measured

10. PUMPING LEVEL (below land surface)  
ft. after hrs. pumping  
ft. after hrs. pumping

11. WELL HEAD COMPLETION  
☐ Pitless adapter ☐ Descend offset ☐ At least 12" above grade

12. Well grouted? ☐ Yes ☐ No Cu. Yds.  
☐ Grout cement ☐ Bentonite ☐  
Depth: from ft. to ft.  
from ft. to ft.

13. Nearest source of possible contamination  
feet direction  
Well disinfected upon completion? Yes ☐ No ☐

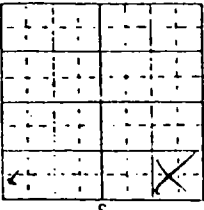
14. PUMP Date installed  
Manufacturer's Name RED JACKET  
Model Number 7BB T+C 1/2  
Length of drop pipe ft. capacity  
Material of drop pipe  
Type: ☒ Submersible ☐ U.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐

15. WATER WELL CONTRACTOR'S CERTIFICATION  
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
Rowland Well Co.  
Address  
City  
Authorized Representative



Name: FILLMORE | Section: 1 | Sub-section: 1 | Page: 1  
 Distance and direction from road intersections or street address and city or town location:

Show exact location of well in section grid with "X". Section no. of well location: 104-11-4 ccc bcd  
 P.A. 86-5112  
 elev. 1043 ± 10

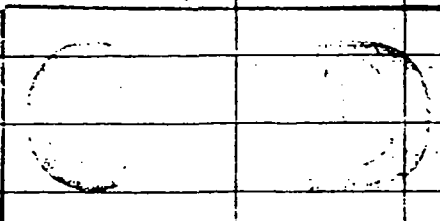


FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
GLUO DRIFT			0	6
SANDY ROCK	T/1037		6	7
SAND-CAVEY	T/1036		7	24
SHAKLEEE	T/1019		24	125
ROOT VALLEY ROCK LAYERS			125	157
DNEOTA			157	161

Figure: o/p d - o/p d

LOCATED BY:

- ☐ Address verification
- ☐ Name mailbox
- ☐ [unclear]
- ☐ [unclear]
- ☐ [unclear]
- ☐ [unclear]
- ☒ [unclear] grounds keeper
- ☐ [unclear] State Why



REMARKS, ELEVATION, SOURCE OF DATA, etc.:  
DRILLED 10X8

Address: CHOSEN VALLEY (215 1116)  
CHATFIELD WELL LOG 3

4. WELL DEPTH (completed) 161 ft. Date of Completion 7-31-64

5. ☐ Cable tool ☐ Reverse ☐ Driven ☐ Jet  
☐ Hollow rod ☐ Air ☐ Bored ☐  
☐ Rotary ☐ Jetted ☐ Power Auger

6. USE: ☐ Domestic ☐ Public Supply ☒ Industry  
☐ Irrigation ☐ Air Conditioning ☒ Sewerage  
☐ Test Well ☐

7. CASING DIAM. Threaded ☐ 1 Welded ☐ Surface ☐  
8 Black ☐ 2 Galv. ☐  
 in. to 55 ft. depth Weight 15 lbs./ft.  
 in. to \_\_\_\_\_ ft. depth  
 in. to \_\_\_\_\_ ft. depth Drive Shoe? ☒ Yes ☐ No

8. SCREEN Or open hole from 55 ft. to 161 ft.  
 Make \_\_\_\_\_ Dia. \_\_\_\_\_  
 Type \_\_\_\_\_  
 Slot/Gauge \_\_\_\_\_ Length \_\_\_\_\_ FEET/INCH  
 Set between \_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
 \_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
 \_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL 72 ft. ☐ below ☐ above land surface Date measured \_\_\_\_\_

10. PUMPING LEVEL (below land surface)  
 \_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.m.  
 \_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.m.

11. WELL HEAD COMPLETION ☐ Pitless adapter ☐ Basement offset ☐ At least 12" above grade

12. Well grouted? ☐ Yes ☐ No Ca. Yds. \_\_\_\_\_  
☐ Heat cement ☐ Bentonite ☐  
 Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type  
 Well disinfected upon completion? Yes ☐ No ☐

14. PUMP Date installed \_\_\_\_\_  
 Manufacturer's Name PEERLESS Not installed  
 Model Number \_\_\_\_\_ SP 72 Volts  
 Length of drop pipe 130 ft. capacity \_\_\_\_\_ g.p.m.

Material of drop pipe Type: ☐ Submersible ☒ U.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐

15. WATER WELL CONTRACTOR'S CERTIFICATION  
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Rowland Well Co.  
 License Business Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Claimed \_\_\_\_\_ Date \_\_\_\_\_  
 Authorized Representative \_\_\_\_\_

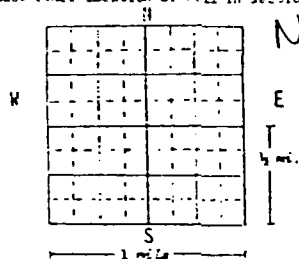
County Name **FILLMORE** | Section **1** | Township **1967** | Range **7** | Road **1**

Owner Name **C. CHAFFIN - JELANET**  
Address **CHATFIELD 226023**

Direction and Distance from road intersections or Street Address and City or Well Location

Show exact location of well in section grid with "X."

Sketch map of well location.



2. FORMATION LOG	COLOR	THICKNESS OF FORMATION	FROM	TO
DRIFT			0	3
ST PETER	T/967		3	7
SHAKOPEE	T/963		7	87
ROOT VALLEY			87	98
ONECTA			98	271
GRAY SANDROCK	T/600		271	281
HARD SANDROCK w/ SHALE			281	289

104-11-9 ccc cbc

ELEV 970 ± 10

Asin

C.P. - 1000

### LOCATED BY

- 1 - ☐ Address Verification
- 2 - ☐ Name on mailbox
- 3 - ☐ Lot-Block
- 4 - ☐ Plat Book
- 5 - ☒ Info. From Owner
- 6 - ☐ Info. From Neighbor
- 7 - ☐ Other \_\_\_\_\_
- ☐ Can't Locate State Why \_\_\_\_\_

4. WELL DATA (Completed) Date of Completion **289** **9-4-74**

5. ☐ Cable tool ☐ Reverse ☐ Driven ☐ Dug  
☐ Follow rod ☐ Air ☐ Bored ☐   
☐ Pottery ☐ Jetted ☐ Power Auger

6. USE ☒ Domestic ☐ Public Supply ☐ Irrigation ☐ Air Conditioning ☐ Test Well ☐ Commercial

7. CASING DIAM. **4** Threading ☐ Welded ☐ Surface ☐  
 Black ☐ Galv. ☐  
 In. to **150** ft. depth Weight **27-6** lb./ft.  
 In. to \_\_\_\_\_ ft. depth Drive Shoe: Yes ☒ No ☐  
 In. to \_\_\_\_\_ ft. depth

8. SCREEN Or open hole  
 Make \_\_\_\_\_ From **150** ft. to **289** ft.  
 Type \_\_\_\_\_ Dia. \_\_\_\_\_  
 Slot/Gauge \_\_\_\_\_ Length \_\_\_\_\_  
 Set between \_\_\_\_\_ ft. and \_\_\_\_\_ ft. FITTINGS:  
 \_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
 \_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL **55** ft. ☒ below ☐ above Date Measured \_\_\_\_\_

10. PUMPING LEVEL (below land surface)  
 \_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ c.p.m.  
 \_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ c.p.m.

11. WELL HEAD COMPLETION ☒ Pitless adapter ☐ Basement offset ☐ At least 12" above \_\_\_\_\_

12. Well grouted? ☒ Yes ☐ No Cu. Yds. **3**  
☐ Best cement ☐ Bentonite ☐   
 Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_  
 Well disinfected upon completion? Yes ☐ No ☐

14. PUMP Date installed **10-8-74**  
 Manufacturer's Name **RED-JACKET** ☐ Not installed  
 Model Number **980** 1/2 hp  
 Length of drop pipe **84** ft. capacity \_\_\_\_\_ c.p.m.  
 Material of drop pipe \_\_\_\_\_  
 Type: ☐ Submersible ☐ U.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐

15. WATER WELL CONTRACTOR'S CERTIFICATION  
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

**Rowland Well Co.**

Address \_\_\_\_\_  
 Signed \_\_\_\_\_ Date \_\_\_\_\_  
 Authority's Representation

16. REMARKS, EXPLANATIONS, SOURCE OF WATER, ETC.

Drilled 8x4